

ACEI ASSOCIATION OF
CONSULTING ENGINEERS
OF IRELAND

ANNUAL REVIEW and
DIRECTORY OF MEMBERS

2023



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FOREWORD

I am delighted to introduce the 2023 edition of the Association of Consulting Engineers of Ireland (ACEI) Annual Review and Directory.

As well as other recent years, 2022 was one that will last long in the memory of all involved in the built environment sector. The war against Ukraine continues to negatively impact the lives of millions of many of the country's citizens, many of whom have fled the horrendous crimes being inflicted on their nation. It has also affected all economies across western Europe countries in several ways, not least hyper-inflation of energy costs. These costs have fed into an already overheated construction economy in Ireland, resulting in a very uncertain outlook for us all. Combined with the lingering effects of Brexit and COVID-19, we are certainly living in interesting times.

The emergence from pandemic restrictions is of course very welcome. The association was delighted to return to hosting a gala event to celebrate the winners of the ACEI Engineering Excellence Awards after a two-year gap. I have also been privileged as ACEI President to attend several dinners and events as the guest of other industry organisations, nationally and internationally in recent months. It is great to be back together again in person to enjoy each other's company and conversation.

The ACEI's role includes engaging with our client stakeholders and we continue to meet with many government bodies and public sector organisations. These interactions have been very positively received and we are often invited for further, more detailed discussions, with some bodies seeing our association as a direct conduit to the Irish consulting engineering community. We also continue to send regular budget and other policy submissions to Government.

In 2022 ACEI was pleased to nominate Secretary General, Sarah Ingle, as Chair of the Construction Industry Council (CIC) for a two-year term. The CIC is a confederation of the main representative bodies of the construction industry in Ireland. ACEI's increased profile on the CIC,



as well as its strengthened voice to many Government departments, especially the Department of Public Expenditure and Reform (DPER), has been very beneficial to the association. Of particular note have been the negotiations on Professional Indemnity Insurance (PII) including the proposed, welcome introduction of liability caps to public sector contracts.

The members of the ACEI Executive Board and the sub-committees all give of their time freely to provide strong governance, clear direction, and technical advice to the association. Without their expertise and commitment, the ACEI could not deliver on its strategic objectives, nor the very comprehensive activities which are summarised in this review.

On your behalf, I would like to extend our deep thanks to the Executive Board, the Secretariat, and the wider ACEI member cohort for all their many and excellent contributions over the year.

A handwritten signature in black ink, appearing to read 'B. Kavanagh', written over a light grey circular watermark.

Brian Kavanagh
President, Association of Consulting Engineers of Ireland

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PRESIDENTIAL HANDOVER 2022 - 2023



Brian Kavanagh,
ACEI President 2022-2023



Handover of chain of office from David
McHugh, ACEI President 2021-2022 to
Brian Kavanagh



ACEI Past President's Pin

Brian Kavanagh, BE, DipProjMgmt, CEng, FIEI, Eur Ing, FConsEI, was elected ACEI President at the association's AGM on 25 March 2022.

Brian is a Chartered Engineer, and a fellow of the Association of Consulting Engineers of Ireland (FConsEI). Brian is a director and chairman of Garland and is the fifth member of Garland to be elected President of ACEI. He has accumulated over thirty years' experience as a civil and structural engineer, PSDP and assigned certifier and has been the project director in charge of major healthcare, educational, residential, commercial, and industrial projects throughout Ireland.

Brian works with some of the biggest multinationals in Ireland and has longstanding relationships with the largest educational and healthcare clients in the country. He has been responsible for continued developments of St. James's Hospital, Dublin, and for ongoing developments at Tallaght University Hospital. Brian is well respected in his ability to foster long-term client relationships. He is always relied on by clients to provide a rapid and flexible service and to provide forthright and trustworthy advice. Brian holds a postgraduate diploma in project management, and he is renowned for providing a practical and results orientated project management service.

Brian has continued the work of previous ACEI presidents especially regarding the ACEI's Pledge to Net Zero by 2030. He also focused on delivering value to ACEI members while fostering and enhancing their standing within the Consulting Engineering profession and the Built Environment sector.

Brian is convenor of the ACEI Building Control Regulations committee and has served as a member of the ACEI Executive Board on several occasions since 2011. He is a former chairman of the finance committee and structures and construction division of Engineers Ireland, and a former member of the Executive and Council of Engineers Ireland. Brian is a long-term member of Bective Rangers and was a member of the Vets team which won the league and cup double in 2010.

PAST PRESIDENT'S PIN

In 2021 a new silver pin for ACEI Past Presidents was commissioned from artist, jewellery designer and maker, Maureen Lynch. Maureen was chosen to undertake the design as her work is structural in nature with an emphasis on elemental simplicity.

When the first pins were delivered, it was serendipitous to learn that Maureen is the granddaughter of Nicholas O'Dwyer, ACEI's first President, elected in 1958.



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Garland



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2nd Vice-President
Anne Marie Conibear
J. B. Barry & Partners Ltd



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Michael O'Reilly
O'Connor Sutton Cronin



Honorary Treasurer
Donnachadh O'Brien
Donnachadh O'Brien &
Associates



Ex-Officio
David McHugh
RPS



Tim Murnane
PUNCH Consulting
Engineers



Joe Burns
Arup



Siobhán Moneley
T.J.O'Connor &
Associates



Ciaran McGovern
TOBIN Consulting
Engineers



Marc Jones
Roughan & O'Donovan



Gemma McCarthy
Mott MacDonald Ireland



Company Secretary
Dr Sarah Ingle
ACEI Secretary General

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ACEI PRESIDENTS

1958	Nicholas O'Dwyer	1980	Joseph McCullough	2002	Noel Kane
1959	Patrick J. McCarthy	1981	John B. Barry	2003	John Egan
1960	Gerard N. F. Barry	1982	Michael P. Lysaght	2004	Páid Cassidy
1961	Thomas J. O'Connor	1983	Thomas J. Harney	2005	Derrick Edge
1962	Hugh Maloney, Bart.	1984	Ciaran MacIntyre	2006	Kerry O'Sullivan
1963	Hugh Maloney, Bart.	1985	Timothy O'Brien	2007	Eamonn Waldron
1964	Joseph V. Tierney	1986	Kevin S. McLoughlin	2008	Joe O'Donovan
1965	Joseph V. Tierney	1987	Nael G. Bunni	2008	Michael McSweeney
1966	Eoin Ó Cionna	1988	Brian K. Reilly	2009	John Lombard
1967	Eoin Ó Cionna	1989	Donal Downes	2010	Eamon Timoney
1968	Patrick J. Mehigan	1990	John A. Kavanagh	2011	Finn Ahern
1969	Patrick J. Mehigan	1991	Liam B. Connolly	2012	Michael Moriarty
1970	John D. Tighe	1992	Dónal J. O'Donoghue	2013	Michael Garrick
1971	John D. Tighe	1993	Michael Ledwidge	2014	Brian Homan
1972	Desmond Rea O'Kelly	1994	John Purcell	2015	Kevin Rudden
1973	Seán Mulcahy	1995	Malachy Walsh	2016	Richard Crowe
1974	John Gwynn	1996	Donal Lynch	2017	Tony Horan
1975	Pádraig Aonghus Ó hEocha	1997	Malachy Walsh	2018	Ciarán Kennedy
1976	Michael O'Doherty	1998	Frank McGrath	2019	Gerry Carty
1977	Patrick J. Tobin	1999	Terence O'Neill	2020	Conor McCarthy
1978	Patrick J. Tobin	2000	Eamon O'Brien	2021	David McHugh
1979	Robert E. Jacob	2001	Michael J. Gannon	2022	Brian Kavanagh

ACEI COMMITTEES 2022-2023

Presidential Team

Brian Kavanagh – President
James Kavanagh – 1st Vice President
Anne-Marie Conibear – 2nd Vice President
Michael O'Reilly – Honorary Secretary
Donnachadh O'Brien – Honorary Treasurer
David McHugh – 1st Past President
Sarah Ingle – Secretary General

Mechanical and Electrical

Convenor: Susan Cormican
Ray Curran
Colm Saul
Joe Hogan
Simon O'Brien
Cian Dowling
William Forsyth
Bernard Denver
Darragh Canning
David Brennan
Gavin Murphy

Civil

Convenor: Anne Marie Conibear
Gerry Carty
Liam Prendiville
Harry Meighan
Audrey Phelan

Structures

Convenor: Donnachadh O'Brien
Ciarán Kennedy
John Hayes
Niall Clarke
Karel Murphy
Adrian Ryan
Anthony Mulligan
Michael O'Reilly
Gavin McHugh
Mark Forbes
Tommy Morey

Construction Health and Safety – Joint ACEI / Engineers Ireland

Convenor: Ian Anderson
Páid Cassidy
Adam Goff
Ronan McElwain
Michael Fleming
Dee Kehoe (Engineers Ireland)

Continuing Professional Development

Convenor: Clodagh O'Donovan
Tim Murnane
Alan Nolan
Jonathan Morris

Risk / PII / Procurement

– Joint ACEI / Engineers Ireland
Convenor: Michael O'Reilly
Páid Cassidy
Rachel McKenna
Owen O'Reilly (Engineers Ireland)

Building Information Modelling – Joint ACEI / Engineers Ireland

Convenor: Aonghus O'Keefe
Brian Lahiff
Robin Evans
Siobhán Moneley
Mark Evans

Building Control Regulations

Convenor: Brian Kavanagh
Michael Moriarty
Paul O'Connell

Sustainability

Convenor: Gemma McCarthy
David McHugh
Marcus Dancey
Patrice McVeigh
John Bynum
Brittany Easton

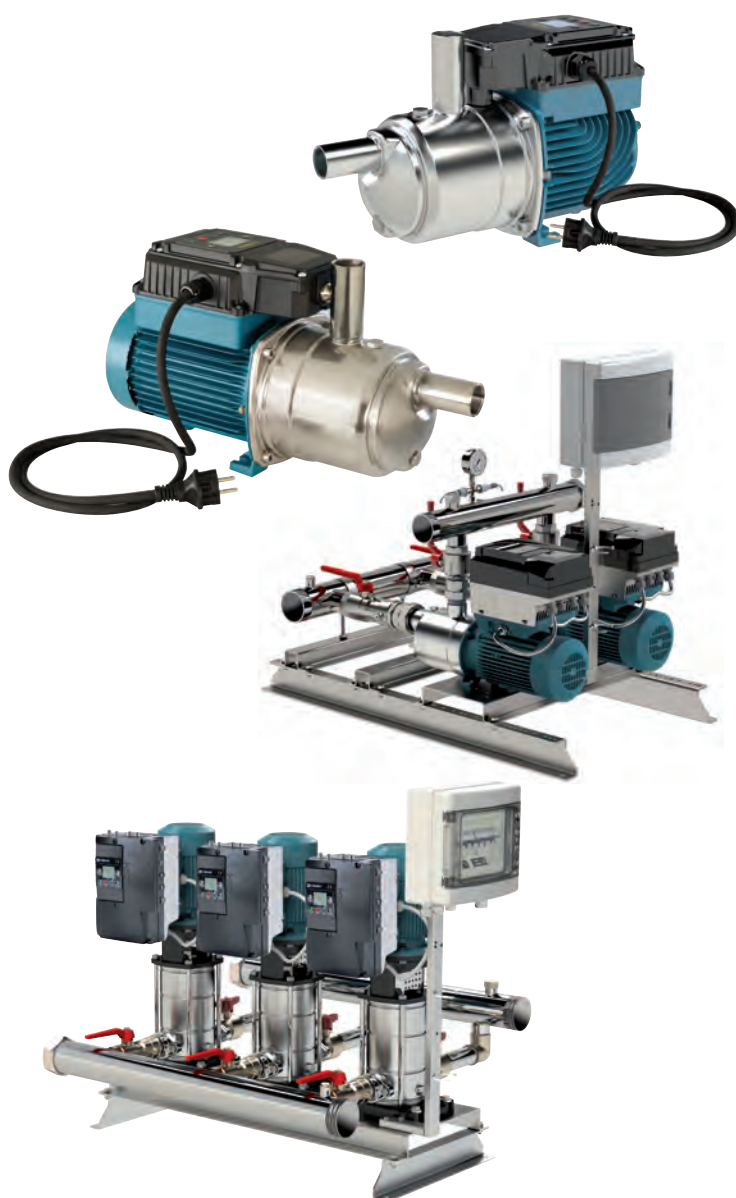
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ACEI & AFFILIATES 2023 TRAINING AND EVENTS CALENDAR

ACEI Blockwork Webinar	1 February
Designing for Safety in Construction Course (DSC)	21 and 28 February (run by Engineers Ireland)
Project Supervisor Design Process (PSDP) Course	21 and 28 March (run by Engineers Ireland)
ACEI Annual General Meeting	24 March
ACEI Awards Dinner	31 March
ACEI Leadership Course	TBC
Designing for Safety in Construction Course (DSC)	TBC (run by ACEI)
Project Supervisor Design Process (PSDP) Course	TBC (run by ACEI)
DSC / PSDP Refresher Course	TBC
BIM Coordinators Summit 2023	7 September

ACEI & AFFILIATES 2022 TRAINING AND EVENTS CALENDAR

Designing for Safety in Construction Course (DSC)	9 and 16 February (run by ACEI)
ACEI Summit: <i>Pledge to Net Zero</i>	2 March
ACEI Annual General Meeting	25 March
Project Supervisor Design Process (PSDP) Course	30 March and 6 April (run by ACEI)
Irish Water Connections Workshop	28 April
Designing for Safety in Construction Course (DSC)	10 and 17 May (run by Engineers Ireland)
ACEI / IStructE Graduate Development Course	11, 18, 25 May and 8, 15, 22 June
Project Supervisor Design Process (PSDP) Course	8 and 15 June (run by Engineers Ireland)
Dept Education Large Scale Capital Works Programme Webinar	21 June
ACEI Awards Dinner	2 September
BIM Coordinators Summit 2022	8 September
Designing for Safety in Construction Course (DSC)	13 and 20 September (run by Engineers Ireland)
Project Supervisor Design Process (PSDP) Course	18 and 25 October (run by ACEI)



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ACEI OVERVIEW



16 St Stephens Green, Dublin

HISTORY

The Association of Consulting Engineers of Ireland (ACEI) is the representative body in Ireland of those professional engineering companies that offer their skills and experience in all branches of engineering to clients requiring independent engineering advice and judgement. The Association was founded in 1938. Virtually all of the significant independent consulting engineering firms in the Republic of Ireland, who qualify for membership, are represented in the Association.

OBJECTIVES

The objectives of the Association are to encourage the practice of engineering as a profession, promote ethical principles and procedures, advance the interests of all engineers in all branches of the profession but particularly those of Consulting Engineers, to increase the usefulness of the profession to the general public, and to safeguard the trust reposed in its members by clients.

ETHICS

A member may not be directly or indirectly involved in any business enterprises which would lead to conflicts of interests and the Association's Executive Board monitors the activities of its members to ensure that ethical standards are maintained at all times.

PROFESSIONAL CODE

Central to the philosophy of the Association has always been that professional fees paid by clients are the member's only remuneration from the projects undertaken. This freedom from conflict of interest is meant to assure objective, unbiased advice from consulting engineering enterprises. As part of its concern for quality of service the Association promotes quality based selection as the most appropriate procedure for the appointment of consulting engineers and the settlement of their fees.

For procedures recommended by the Association for reaching agreement on fees see *Selecting a Consulting Engineer* pages 102-108.

ENGINEERING DISCIPLINES

ACEI member firms offer design and supervision services in all the main engineering disciplines including civil, structural, mechanical and electrical services, fire and process engineering.

Most firms tend to specialise in one or other of the major branches of project engineering but some cover a number of such specialities.

Some member firms are capable of providing additional professional services such as quantity surveying and architecture as optional in-house facilities but these services may also be provided in association with other independent firms recognised in their own field.

ACTIVITIES OF ASSOCIATION

The ACEI negotiates with various public and private client bodies on behalf of its members on important issues such as quality-based selection of consulting engineers, professional liability, health & safety etc.

The ACEI is consulted on a regular basis by Government Departments to present the views of the profession in relation to forthcoming legislation.

ACEI also makes representations to public and private sector client bodies in relation to business practice procedures in the appointment of consulting engineers.

THE ACEI

- Publishes model Conditions of Engagement, suitable for presentation to clients and advises members members on terms of conditions of engagements and related contractual issues including collateral warranties.
- Arranges regular seminars on best practice issues relevant to the profession and publishes advice notes to members on a range of business issues.
- Maintains a database of its members, and makes this information available to clients on its website.
- Assists clients seeking suitable consultants for specific projects by nominating a selection of firms whose experience and geographical location best meets their requirements.
- Publishes a Directory of members every year, which is circulated widely to client organisations to assist them in selecting a consulting engineering enterprise. Selecting a consultant is one of the most important decisions an owner or client makes. The success of any project often depends upon obtaining the most able, experienced and reputable expertise available.



St James's Hospital – Mercer Institute for Successful Ageing

ACEI QUALIFICATIONS FOR MEMBERSHIP



MEMBERS OF THE ASSOCIATION

- (a) An ACEI Fellow Professional Consulting Engineer (FConsEI) who has set up an office and works as a sole practitioner.
 - (b) A professional firm in which all or a majority of the partners or all or a majority of the directors and shareholders with voting rights of a company qualify as ACEI Fellow Professional Consulting Engineers provided that only a minority of other suitably professional qualified persons or bodies, who are not directly or indirectly concerned or interested in commercial, manufacturing, or contracting interests such as would tend to influence the firm in its independent engineering professional judgement and who adhere to the ACEI Constitution and Code of Conduct may also be partners, proprietary directors or shareholders.
 - (c) An Engineering Consultancy, operating in Ireland in which ACEI Fellow Professional Consulting Engineers have control of the Consultancy's affairs. Provided that the consultancy is not a subsidiary or Holding Company of a Company which is primarily engaged in manufacturing or contracting, is in substance owned by the State or a similar public body, or is in substance the Design Department of a development, manufacturing or contracting enterprise.
- i. Is primarily engaged in the business of offering impartial technology-based intellectual and design services for the development of the built, and natural environment, to clients for a fee, and
 - ii. Is managed and has its operating policies determined by people whose professional qualifications, experience and conduct are in keeping with the requirements of the Constitution and Code of Conduct of the ACEI, and
 - iii. Has a good professional reputation and ethical standards, and
 - iv. Is controlled and managed by persons all or a majority of whom are ACEI Fellows or who are qualified to become Fellows and who have applied, and
 - v. Is not a subsidiary or Holding Company of a Company which is primarily engaged in manufacturing or contracting, and
 - vi. Is not in substance owned by the State or a similar public body, and
 - vii. Is not in substance the Design Department of a development, manufacturing or contracting Company, and
 - viii. Is resident or incorporated on the island of Ireland and is conducting business in Ireland, and
 - ix. In the opinion of the Executive, has appropriate persons with knowledge and experience in the field of consulting engineering or related professions to furnish impartial and competent advice to clients, and
 - x. Undertakes to maintain appropriate professional indemnity insurance cover, and
 - xi. Has been in business as a consulting engineering company for a period of not less than three years immediately prior to application for membership or

QUALIFICATIONS FOR ACEI MEMBERSHIP

1. A sole trader, firm or Engineering Consultancy Company seeking membership of the Association shall be an organisation that:

- xii. At least 50% of its shareholders or management have been registered as Fellows of the Association in an existing ACEI Company, and
- xiii. Undertakes to abide by the Constitution of the Company for the time being in force or as they may thereafter be extended or amended, and to pay the annual subscription, and
- xiv. Operates as a financially independent entity, free from subsidies or preferences, and
- xv. Submits a statement annually confirming that the member continues to satisfy the membership requirements set out in the Constitution of the Company.

ACEI REGISTERED PROFESSIONAL TITLES

2. The Registered Professional Titles of ACEI are: Fellow Professional Consulting Engineer (FConsEI) and Registered Professional Consulting Engineer (RConsEI)
 - (a) **ACEI Fellow (FConsEI)**
A candidate seeking registration as an ACEI Fellow (FConsEI):
 - i. Shall hold a third level qualification
 Shall be a Chartered Engineer or Possess a professional title equivalent to that of a Chartered Engineer, from a professional body within their professional discipline as approved by the Association, and
 - ii. Shall have not less than seven years' professional experience as approved by the Association, and
 - iii. (a) Shall have been practising as a Professional Consulting Engineer or in a similar capacity within their own professional discipline for a period of not less than 3 years immediately prior to their application for registration with the Association, or (b) Shall be a partner or proprietary director or managing at a level of responsibility where they are reporting to the owners in a Consulting Engineering organisation, and
 - iv. Shall be engaged wholly or mainly in practice as a Consulting Engineer either individually or as a Partner or Proprietary Director or in an equivalent professional capacity as a Partner or Proprietary Director or in control of the management decisions in a Consulting Engineering organisation, and
 - v. Shall be directly responsible for dealing with clients and committing the firm to consultancy or other financial agreement.
 - (b) **ACEI Professional Consulting Engineer. (RConsEI)**
A candidate seeking registration as an ACEI Professional Consulting Engineer (RConsEI):
 - i. Shall hold a third level professional qualification,

- and
- ii. Shall be a Chartered Engineer, and
- iii. Shall be employed in an ACEI Member Company exercising a management role as a consulting engineer,
- iv. Shall have not less than four years' professional engineering experience as approved by the Association, and
- v. Shall have been practising as a Professional Engineer for a period of not less than 4 years immediately prior to their application for registration with the Association and
- vi. Shall have completed an ACEI approved Business Course.

CORPORATE AFFILIATE MEMBERSHIP

Corporate Affiliate Membership

Corporate Affiliate Membership is open to any engineering related professional Company, which does not fulfil the requirements for full membership, but:

- which has an interest in the consulting engineering industry
- has been in business for a period of not less than 3 years immediately prior to application for membership
- supports the ACEI Objectives and agrees to abide by the ACEI Code of Conduct.

In general terms, ACEI encourages Affiliate Members to play an active role in the Association. This is, on the one hand, an advantage for Affiliate Members. At the same time, Affiliates bring a wealth of varied experience to the consulting engineering industry and to ACEI.

BENEFITS FOR CLIENTS IN SELECTING AN ACEI MEMBER COMPANY

Selecting a consulting engineer for a project is the most important decision a client makes. The success of any project depends on obtaining the most technically competent, experienced and reputable expertise to ensure a successful sustainable project in line with the client's requirements and in harmony with the built environment.

ACEI Membership Stands for:

- Ethics and Integrity
- Reliability
- Impartial Professional Advice

Membership Guarantees:

- Academic qualifications
- Professional experience
- Expertise and know-how

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3

The **Xpelair** heat recovery ventilation system is key to a healthy home, designed to combat condensation, mould and pollutants to ensure the air you're breathing is clean, fresh and healthy. Recovering up to 90% of the heat from the stale air leaving the building, ensuring a continuous fresh air supply while maintaining the maximum efficiency for the building and its occupants.

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FLEXIBLE PENSIONS FOR MEMBERS OF ENGINEERS IRELAND

The Engineers & Technicians Flexible Pension Plan for members of Engineers Ireland incorporates low and transparent charges, total contribution flexibility allowing you to increase, decrease, stop and restart your contributions without penalty, and access to a full range of investment options from Ireland's top pension providers

The plan includes:

- Personal Pensions
- Personal Retirement Savings Accounts (PRSAs)
- Executive Pensions
- Company Pensions
- Additional Voluntary Contributions (AVCs)
- Approved Retirement Funds (ARFs)
- Self Administered Pension Schemes
- Personal Retirement (Buy-Out) Bonds
- Annuities
- Pension Life Assurance
- Pension Review
- Pension Consolidation



For further information please contact:

Tony Gleeson B.Comm., AIIPM

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ACEI OBJECTIVES AND CODE OF CONDUCT

1. OBJECTIVES

The objectives of the Association are:

(a) To promote the advancement of the profession of consulting engineering by:

- Encouraging its members to have regard to the public interest particularly in the areas of health and safety in the discharge of their duties;
- Seeking to ensure that integrity, competence and quality remain the hallmarks of Association membership and to find ways of encouraging members to uphold these principles;
- Acting for and protecting the interests of practising Consulting Engineers;
- Encouraging its members to deliver a quality service to clients;
- Developing and maintaining a Code of Conduct for members;
- Encouraging its members to carry an appropriate level of Professional Indemnity Insurance;
- Dealing with complaints against members;
- Preparing advisory notes on new legislation and regulations affecting engineering and construction;
- Identifying and seeking to influence the course of emerging issues, at local, European and international levels that will impact on Members;
- Preparing and enforcing rules, bylaws and disciplinary procedures for Members that recognise natural justice, the demands of society, the changing and competitive nature of the business environment, and the need for a high standard of professional conduct;
- Preparing and keeping up-to-date Conditions of Engagement of Consulting Engineers for contracts of all types;
- Promoting the status of Irish Consulting Engineers by being a voice on their behalf on relevant key issues affecting society;
- Assisting in the development of engineering education through establishment of interfaces with Universities, Colleges and other accredited Institutions;
- Developing a programme of continuous professional development courses and seminars to enable members and their staff to maintain the necessary expertise in the areas of business, current regulations and codes of standards and best practices within the constantly changing professional, business, legal and regulatory environment in which they operate;
- Ensuring that a strong Irish-based Consulting Engineering profession is developed and strengthened



to support the ongoing socio-economic development of the country, including the protection of our heritage and the environment;

- Influencing public bodies on procurement procedures and the use of Quality Based Selection (QBS) for the procurement of consulting engineering services;
 - Provide international links to other similar organizations through its membership of International Federation of Consulting Engineers / European Federation of Engineering Consultancy Associations (FIDIC / EFCA).
- (b) To associate for consultation and co-operation those engineers who are primarily engaged in practice as consulting engineers in Ireland.
- (c) To watch over, promote and protect the interests and rights of the profession of consulting engineering in Ireland.
- (d) To afford government departments, professional institutions, public bodies, educational and technical institutions, trade associations and other institutions in Ireland, facilities for conferring with and ascertaining the collective views of consulting engineers.

- (e) To assist in the introduction, interpretation and application of rules of professional duties and conduct.
- (f) To outline the qualifications and duties of a consulting engineer and their proper relations with their clients, and to provide a standard of accepted consulting engineering practice.
- (g) To purchase, lease, hire, occupy or otherwise acquire lands, house, rooms, offices, buildings, wharves, quays or depots, ships, boats, hulks, and other real or personal property, and any right, easement or privilege necessary or convenient for the purpose of carrying out the objects and purposes of the Association, and for the like purpose to engage or dismiss any person or persons.
- (h) To take any gift of property whether subject to any special trust or not for any one or more of the objects of the Association.
- (i) To sell, manage, lease, mortgage, dispose of, invest or otherwise deal with all or any part of the property of the Association.
- (j) To borrow money with or without security as may be deemed necessary and expedient for carrying out the purposes of the Association.
- (k) To draw, make, accept, endorse, discount, execute and issue promissory notes, bills of exchange, bills of lading, warrants and debentures and other negotiable and transferable instruments.
- (l) To establish and support, and to aid in the establishment and support of any other association formed for all or any of the objects of the Association if considered desirable by the Association.
- (m) To contribute to any benevolent fund, for benefit of the members, if considered desirable by the Association.
- (n) To secure mutual support and co-operation among its members.
- (o) At the discretion of the Association to assist, protect and indemnify members who may, on the direction of the Association, help either in carrying out the objects of the Association or in giving effect to its decisions or desires, or who may be injured or prejudiced by reason of their giving effect to any such decision or desire. Provided always that the Association shall not support with its funds any object or endeavor to impose or procure to be observed by its members or others; any regulation, restriction or condition which, if an object of the Association, would make it a trade union.
- (p) To do all such other things as are incidental or the Association may think conducive to the attainment of the above objects or any of them.
- (q) To do all such other things as are incidental or the Association may think conducive in order to uphold the Code of Conduct of the Association.

CODE OF CONDUCT

1. Role of the Association

The Association is a professional body representing the business and professional interests of firms and individuals engaged in the practice of Consulting Engineering. It acts as the voice of the Consulting Engineering profession; assists in resolving issues of importance for clients and Consultants alike; and contributes to the development of relevant public policy and papers through involvement in Working Groups, Government Committees, and related fora.

2. Code of Conduct

The Association believes that it is essential that its Members should always act in an ethical and principled manner, and it therefore requires all Members to abide by a strict Code of Conduct which is supported by a written Complaints Procedure.

2.1 General

In carrying out its professional duties, an ACEI Member shall:

- Have full regard to the needs of society to protect the public interest;
- Recognise the fundamental role that a healthy, functioning environment has for the wellbeing of society and that this is under threat from climate change;
- Act consistently with the United Nations' 2030 Agenda for Sustainable Development;
- Preserve the integrity of the profession of consulting engineers; and
- At all times provide an impartial service of high quality in accordance with this code.

2.2 Standards & Codes

- Members shall endeavour to respect and comply with the regulations, standards and codes of practice appropriate to their profession and to the task entrusted to them.

2.3 Competence & Standards of Training

- Members shall maintain knowledge and skills at levels consistent with development in technology, the needs of the environment, legislation and management and exercising reasonable skill care and diligence in the services rendered to the client.
- Members shall perform services only when competent to perform them.
- Members shall be committed to the principle of professional development of the management team and should undertake appropriate programmes of staff training.

2.4 Professional Control

- Members shall organise their work for a client in such a way that it is under the direct control of appropriate



professionally qualified or suitably experienced persons.

2.5 Remuneration

- Members shall be remunerated solely by the client. No direct or indirect benefit shall be received from any other party.
- Remuneration agreed between a member and its client should be such as to enable the Member to carry out its responsibilities to the client adequately in every respect.
- Members shall neither offer nor accept remuneration of any kind which in perception or in effect either:
 - (a) seeks to influence the process of selection or compensation of Members and / or their clients or
 - (b) seeks to affect the member's impartial judgement.

2.6 Impartiality

- Members shall be impartial in the provision of advice, judgment or decisions.
- Members shall inform the client of any potential conflict of interest that might arise in the provision of services to the client
- Members shall not accept remuneration which prejudices independent judgment.
- Members shall not accept from any persons or company, any kind of favour which might compromise the impartiality of the member's decision, or prejudice their duties to their client.
- Members shall not be the medium of payments made on their client's behalf (unless specially so requested in writing by their client) but shall only issue certificates or recommendations for payment.

2.7 Conflict of Interest

- Members shall avoid all conflict of interest with their client.
- Members shall promptly inform clients of any shareholdings, association, connections or other commercial interests which the client might consider would impair the impartiality of their professional advice or the quality of their service.

2.8 Fairness to Others

- Members shall neither carelessly nor intentionally do anything to injure the reputation or business of others.
- Members shall neither directly nor indirectly knowingly attempt to take the place of another member already appointed for specific work.
- A Member shall build its professional reputation on the quality of its service and shall not compete unfairly with others.
- A Member shall not pay, or offer to pay, any commission or contribution in order to secure or retain work.
- A Member shall not falsely, maliciously or recklessly, directly, or indirectly, injure the professional reputation of another member.

2.9 Reviewing the Work of Others

- A Member shall not knowingly review or appraise the work of another engineer for the same client, without notifying such engineer.

2.10 Taking Work Over

- A Member shall not take over the work of a fellow Member, for the same client, unless it has satisfied itself, as far as it reasonably can, that the connection

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of such Member with the work has been terminated; that the legitimate interests of the member have been protected, and that it has notified the member concerned and received a request in writing from the client to take over the work.

- A Member shall not take over the work of another member until that Member's appointment has been terminated by the client in writing.
- A Member shall not knowingly solicit project work from a client who has a Member or Members already engaged for the same project.

2.11 Clarity of Engagement

- Members shall ensure that the terms of their engagements are clearly stated and in writing.

2.12 Quality Management

- Members are encouraged to adopt and maintain a system of quality management.

2.13 Indemnity Insurance

- Members shall maintain appropriate professional indemnity insurance cover.

2.14 Working Overseas

- The Association is a member of the International Federation of Consulting Engineers (FIDIC) and of the European Federation of Engineering Consultancy Associations (EFCA).
- Members shall order their conduct according to the rules and standards of those bodies when working in a country where a member of those bodies is constituted.

2.15 Bringing the Association into Disrepute

- A Member shall not by its actions bring the Association into disrepute.
- A Member shall not act, or conduct itself in a manner which is, in the opinion of the Executive Committee, prejudicial to its position as a Consulting Engineering

enterprise, or to the interests of the Association or its Members.

- A Member shall not knowingly act in a manner derogatory to the honour, integrity or dignity of the Association or any of its Members.

2.16 Advertising of Services

- Discreet advertising is permitted. Such publications and expressions of opinion shall be moderate and discreet in tone and content, factual and capable of verification or if not so capable of verification then clearly made as expressions of opinion.
- A Member shall not unfairly criticize either explicitly or by implication the work of another member.
- Statements shall not in any way bring discredit to the Association or to the profession.
- Signboards or plates may be placed on Members' premises or on work sites.
- Commemorative tablets or inscriptions bearing Members' names may be placed on completed works.

2.17 ACEI Ethics Committee

- Members shall co-operate fully with the ACEI Ethics Committee in any inquiry with regard to a complaint brought against a member under this Code of Conduct.
- Members shall abide by the decisions of the ACEI Executive Committee.

3. COMPLAINTS AGAINST A MEMBER COMPANY OR AN ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

The Association is seriously concerned at all times with any breaches of the Constitution or Code of Conduct of the Association and views with particular concern any action by a member or an ACEI Registered Fellow Consulting Professional Engineer which may directly or indirectly injure the professional interest of another member or the Association.

Allegations regarding breaches of the Code of Conduct shall be considered by the Association's Ethics Committee which is one of the Advisory Committees established by the Executive Committee. The ACEI Code of Conduct is mainly concerned with the ethical standards and the propriety of actions taken by members. The ACEI Executive Committee shall undertake to assist where possible in the resolution of a complaint made by a client(s) against a member or a complaint made by a member against another member.

In relation to a complaint against an ACEI Fellow Professional Consulting Engineer (FConsEI), if in the judgment of the Executive Committee it is appropriate to do so the matter shall be referred to the Ethics & Disciplinary Committee of the respective Chartered Institution of the person concerned.

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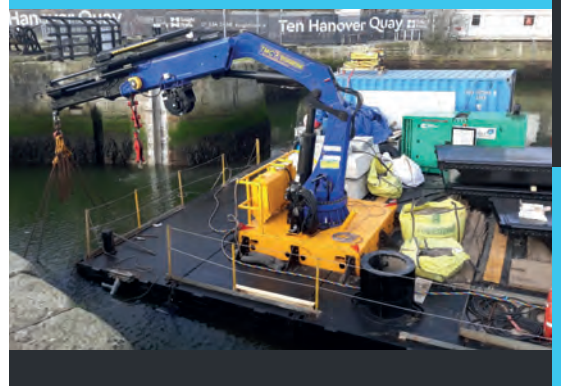
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ACEI AFFILIATIONS



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LOCAL AFFILIATIONS

The Association is a member of a number of important ad-hoc external bodies and actively participates in their work.

The most significant of these are:

CONSTRUCTION INDUSTRY COUNCIL (CIC)

The Construction Industry Council is comprised of representatives (usually President and CEO), of the six largest built environment related bodies operating in Ireland, including the Association of Consulting Engineers of Ireland (ACEI), Engineers Ireland, the Construction Industry Federation (CIF), the Royal Institute of the Architects of Ireland (RIAI), the Society of Chartered Surveyors Ireland (SCSI) and the Building Materials Federation (BMF). The Council meets on a bi-monthly basis, and has regular meetings with other professional bodies, government and international stakeholders.

The overarching aims of the CIC are to deal with issues of common interest for the construction industry, and to act as the cohesive voice for the sector on high-level policy issues by engaging with stakeholders accordingly. The CIC complements the work of its member associations by undertaking strategic reports, engaging external expertise and providing a united voice on mutual areas of concern and interest.

ACEI, Secretary General, Sarah Ingle chairs the CIC on behalf of ACEI for 2022-2023.

CONSTRUCTION IT ALLIANCE (CITA)

CITA works to actively encourage the Irish Construction sector to take full advantage of current and emerging Information and Communications Technologies. The Alliance transmits the latest information on technology trends through monthly events and annual conferences with experts in key areas whilst providing networking

opportunities with peers. CitA has robust links with the professional bodies and representative organisations of the built environment sector. These include ACEI, CIAT, CIBSE, CIF, CIOB, Engineers Ireland, GMIT, ICES, IPFMA, IStructE, Law Society, LYIT, NDFA, OPW, RIAI, SCSi, as well as third-level academic institutions in Ireland.

OTHER INTERNAL COMMITTEES

In addition to the foregoing, ACEI is also a member of the following committees and participates in their activities:

- Construction Sector Group
- Irish Coalition of Service Industries
- Electrical Technical Council of Ireland
- Irish Inter Professional Association
- National Standards Authority Standing Committees

EUROPEAN & INTERNATIONAL AFFILIATIONS

ACEI is a member of the following overseas bodies.

EFCA

- Founded in 1992, EFCA (The European Federation of Engineering Consultancy Associations) is the only federation to represent the engineering consultancy industry in Europe. It comprises 31 member Associations from 28 European countries, representing over 10,000 firms, with more than one million employees in engineering and related services and annual turnovers in excess of €20 billion.
- Is a non-profit making and independent professional organisation committed to representing the profession in Europe and promoting engineering consultancy and related services.
- Represents the interests of the profession to the European institutions so that directives and regulations affecting the work of engineering consultancy and related services are fair to both the profession and society as a whole.
- Represents the interests of its members to lending agencies such as the World Bank and the European Bank for Reconstruction & Development, and to other international institutions.
- Requires all members to comply with its Code of Conduct governing the performance and quality of consulting engineering services.

In view of the importance of the EU in the Irish context ACEI has been actively involved in the work of EFCA since its inauguration. Individual members such as Donal Lynch and Jack Kavanagh have participated on EFCA Task forces dealing with various EU Directives i.e. health & safety, public procurement and related issues.

The ACEI Executive Director, Anne Potter, was also an

EFCA Vice-President from 2000-2003, Kevin Rudden, ACEI Past President undertook the role of EFCA President 2017-2020 and ACEI Secretary General Sarah Ingle was elected as a member of the EFCA Board of Directors 2021-2024.

FIDIC

FIDIC (The International Federation of Consulting Engineers) represents the International business interests of firms belonging to national Member Associations of engineering-based consulting firms. The members of each national association comply with FIDIC's Code of Ethics which calls for impartial advice, competence and fair competition and endorse FIDIC's Policy Statements and Statutes.

Founded in 1913, FIDIC membership today numbers 100 Member Associations in different countries representing some 540,000 professional consulting engineers worldwide.

Membership of FIDIC is restricted to one Member Association per country and ACEI is the Irish member. However companies and organisations may join FIDIC as Affiliate or Sustaining Members if there is no national Member Association in their country.

FIDIC PUBLICATIONS

FIDIC publishes international contracts and agreements which are used by World Bank and other funding agencies. Given the rapidly changing marketplace and contractual relationships, i.e. Design Build (DB), Public Private Partnerships (PPP), Design Build Operate (DBO), etc. FIDIC has over the past few years revised its core suite of documents and developed additional contracts to meet the needs of the market. These are now being used by Irish public bodies including the Dept. of Environment, in relation to DB and PPP contracts.

ACEI is a strong supporter of FIDIC and given its relatively modest size, is quite active in the drafting of the various FIDIC contract and construction liability documents through the efforts of individual members including Dr Nael Bunni and Des Barry. The President and the Secretary General also participate in the FIDIC Annual Conference and General Assembly Meeting. Sarah Ingle, ACEI Secretary General, was a member of the FIDIC Advisory Council supporting the FIDIC Board during 2018 - 2020.

Over the years ACEI has developed excellent working relationships with a number of FIDIC Member Associations. ACEI is therefore able to obtain a rapid response to queries raised by members as well as facilitating networking opportunities or contacts for members in other countries.

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ACEI PTNZ SUMMIT



Emission Scope

ACEI is pleased to be an industry leader taking action on climate change in line with the 2015 Paris Climate Agreement. The association hosted a virtual Pledge to Net Zero (PtNZ) Summit on 2 March 2022, to help member firms and others on the pathway to net zero to understand the benefits of involvement in this pledge.

Opening the Summit, Sarah Ingle, ACEI Secretary General, welcomed members as well as colleagues from the wider built environment sector. She thanked ACEI firms that had already signed up to PtNZ, demonstrating in tenders their commitment as leaders in their field. These firms are also undertaking to make a real difference within their own operations while continuing to provide world class advice on sustainability and environmental concerns to clients.

Sarah also noted that the ACEI PtNZ Summit was being held on the third annual UNESCO International Day, which highlights the achievements of engineers and engineering in our modern world and aims to improve the public's understanding of engineering and technology being central to sustainable development. She thanked the

ACEI Sustainability Committee members for all their work and leadership in preparation for the Summit, as well as providing an overview of the PtNZ requirements, particularly looking at science-based targets.

Introducing the Summit and outlining the agenda, David McHugh, ACEI President said that since announcing the PtNZ initiative in November 2021 during COP 26, ACEI has pledged to support member firms in reducing greenhouse gas emissions. This summit is part of a package of measures that have been put in place to help firms achieve their targets. David spoke of how the impact of individual contributions should not be underestimated as the founding member of the Sustainability committee, Marcus Dancey, CS Pringle, drove the development of ACEI's Sustainability Vision, based on four important pillars: advocating, innovating, implementing and leading.

To further facilitate Irish consulting engineering firms meeting the 2050 net zero emissions target, ACEI has partnered with the international PtNZ initiative led by the Society for the Environment (SocEnv), an umbrella body for environmental organisations in the UK.

KEYNOTE SPEAKER – MARIE DONNELLY, CHAIR, CLIMATE CHANGE ADVISORY COUNCIL



In her keynote speech, Marie Donnelly, Chair of the Climate Change Advisory Council (CCAC) provided an introduction to the current emissions situation in Ireland. She noted that there is a real opportunity to achieve

the legislative mandate of over 51% reduction of greenhouse gases by 2030. The intention of the climate action plan and related policy is to have a cyclical process with annual updates, amendments and improvements implemented as necessary to deliver on the climate action plan.

The CCAC has launched a series of sectoral dialogues to understand issues and concerns, as well as discuss what actions can be taken to move forward within each of the sectors. Marie commended ACEI's own PtNZ initiative as exactly the kind of leadership needed from the industry, helping to ultimately deliver the required results. She said it is particularly useful that ACEI has provided guidelines to assist member firms in undertaking the science-based analysis and the accounting process.

Marie Donnelly concluded that as Ireland relies on variable renewables and doesn't have large energy storage facilities, the country needs to be very smart in how its electricity system is managed. In that context ACEI members have a really important role to play in encouraging clients to develop a mindset of balancing capital costs and operational costs.

SETTING SCIENCE BASED TARGETS FOR PTNZ

PJ Ryan, Convenor ACEI Sustainability Committee



then gave an overview of the PtNZ requirements along with what is involved in the pledge's implementation and the associated science-based targets required. PJ introduced a bespoke suite of guidance documents for the Irish context developed by the

ACEI Sustainability Committee. Contained in these are explanations of how to achieve next steps in calculating baselines and setting targets as well as an overview of conversion factors. These documents are all available in the PtNZ dedicated page on the ACEI's website, where other guidance information related to accounting and reporting is also provided.

PJ went on to speak about Scopes 1, 2 and 3 greenhouse gas emissions, activity data and emissions factors and noted that both activity data and emissions factors are used to calculate a carbon footprint. He said it is important to realise that emissions associated with designs by consulting engineers are not included in scope three, yet this is arguably where consulting engineers will have the biggest impact. PJ said that no firm will have it perfect at the beginning but it was important to get the journey started and *'don't let perfection get in the way of good'*.

Especially relevant for an ACEI member firm are low cost actions including:

- Educating staff in relation to reducing carbon emissions.
- Consideration of hybrid working and other initiatives to reduce the carbon emissions from commuting.
- Continue to prioritise online meetings wherever achievable.
- Move to a more sustainable mode of business travel.
- Register offices for renewable energy providers and green energy.

Higher cost actions may include the investigation of office upgrade options for lighting and energy including future provision for PV solutions and array installations.

Case studies from ACEI member firms on Implementing PtNZ were provided by the following speakers and are available on the PtNZ dedicated page on the ACEI website: www.acei.ie/pledge-to-net-zero-news

Three member firms shared their case studies on their respective firms' implementation of PtNZ.

Marcos Jimenez, Sustainability engineer, Ethos Engineering – *Carbon Footprint*

Matthew Theloke, Energy engineer, O'Connor Sutton Cronin – *Aspects and Ambitions towards PTNZ*

Kim Yates, UK and Europe Sustainability and Climate Change Lead at Mott MacDonald – *Carbon Neutral, Context for decarbonisation*

In closing, David McHugh encouraged ACEI Member firms to register for PtNZ, which is a very straightforward process via the ACEI website. After obtaining senior management backing this first step takes a few minutes. David concluded that ACEI member firms are at the beginning of a journey, and that every journey no matter how long, starts with a single step.

SUSTAINABILITY AND CONSULTING ENGINEERS

By the ACEI Sustainability Committee

THE ENDANGERED ENVIRONMENT

Pledges made at COP26 and COP27 represent significant progress in some previously underdeveloped aspects of the fight against climate change. However, scientists say more action is needed to prevent a climate catastrophe by keeping temperature rises below 1.5°C.

Ireland's National Planning Framework identifies that by 2040 an additional one million people are expected to be living in Ireland. These people will need to be accommodated in new residential developments together with all ancillary infrastructure including schools and hospitals and will need to be provided with places of work. Without proper planning, this growth will be haphazard and uneven and could lock Ireland into carbon intensive assets for decades. Achieving the required reductions while providing for this expected increase in population further adds to the challenge before us and requires additional action across society.

Addressing these challenges is the domain of the engineer. The consulting engineering profession in particular can play an influential role in delivering these transitions, given its role in shaping policy and designing society's infrastructure.

A STRATEGIC FRAMEWORK

ACEI embraces the concept of sustainable development, which is founded on the premise of intergenerational equity and defined by the Brundtland Report as *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*. The traditional approach to sustainable development considers the three pillars of environmental, social and economic concerns. However, it is important to recognise the foundational role that the environment plays, to support the other pillars. A healthy, clean, functional and productive environment is the foundation on which a stable and functional society & social order can develop. Similarly, without a stable and functional social order you cannot have a healthy economy.

Increasingly, the ability of finance to influence sustainable development has received greater attention in both the private sector (e.g. the "clean" technology commitment from COP26) and in regulations with the goal of increasing investment in sustainable developments such as the EU Taxonomy which is a classification system for sustainable activities.

In relation to the environment, over half of non-renewable resources consumed by human activity are used in construction and hence efficient material use is a key issue for managing the environmental impacts of development. This should entail the minimising of resource inputs (both materials and energy) on new buildings, repurposing of existing buildings, design for easy adaptation during a building's life, deconstruction and reuse of materials at the end of life with demolition and recycling only as a last resort. It is crucial to embed these considerations in the design and procurement of construction projects, to minimise the use of finite resources. Carbon footprint assessments need to become routine and ultimately the economic cost of environmental pollution would be included into economic assessments of projects.

ROLE OF THE CONSULTING ENGINEER

Engineers have the professional training and experience required to play an influential role in the delivery of sustainable development and their professional goals should include a commitment to this. While consulting engineers can raise the profile of sustainability with clients and support them in the procurement of assets that are sustainable while also meeting the needs of end users, it is the asset owners and developers themselves that make the most impactful decisions. Hence consulting engineers need to maintain an influential working relationship with their clients to ensure that the projects are conceived, designed and developed in a sustainable manner. This means guiding clients to go beyond the traditional focus on function, cost minimisation and programme; clients need to address sustainability, resilience and societal impacts in their design briefs.

Consulting engineers need to leverage a wide range of skills, including:

- Effective communication where listening, influencing and knowledge sharing are vital.
- Innovation where challenging conventional decision-making and delivery approaches result in improved outcomes.
- Risk management where risks are allocated to the parties best suited to managing them.

ACEI endorses the FIDIC recommendations that each consulting engineer should:

- Keep informed on global environmental issues,
- Adopt an interdisciplinary approach to solve environmental problems,
- Inform clients, the public, and government about environmental problems and how to minimise impacts,
- Promote the protection of the environment,
- Support environmental education and R&D.

ACEI also recommends that relevant environmental and social studies are undertaken on individual projects, in an objective and impartial manner. The findings should be used to inform and encourage clients on how to prevent or minimise the adverse environmental and social effects of projects in all phases. However, the challenges involved in this including the resourcing and timeline for such studies are discussed below.

Specific attention should be paid to over-exploiting natural resources, which should be assessed and brought to clients' attention, as appropriate. Ultimately, consulting engineers should take appropriate action, or even decline to be associated with a project, if the client is unwilling to support adequate efforts to address the sustainability of the project design and delivery.

MEETING THE CHALLENGE

Addressing the issues outlined above widely and with minimal delay is the fundamental challenge. For many engineers, the default position is often to continue doing what has successfully been done before, based on lessons learnt (both positive and negative). Past design solutions have an element of certainty regarding their effectiveness, resilience, and absence of unintended consequences that novel solutions may lack. Also, time and fee constraints limit the resources that can be brought to bear on the issue so engineers

may end up incorporating limited change in an overall project's design.

The pledge to net zero commitment that many ACEI affiliated engineering practices are making is a very tangible initiative to help meet the challenge before the industry. It has the effect of focusing the mind on solutions that consulting engineers are going to have to pay for and live with. It is an initiative that will be readily monitored in-house providing participants with valuable information that can be shared for the benefit of clients as well as demonstrating individual commitment to the principles outlined here.

However, reducing the environmental footprint of engineering workplaces is addressing just a small component of the built environment. To address the wider challenge, much of which is beyond the consultant's direct control as engineers, government and government funded private research initiatives can and should provide knowledge and design support for individual initiatives and innovative solutions and these should be quickly scaled up. Commercial pressures give rise to the temptation to keep knowledge in-house and use it to enhance an individual consultant's position in the marketplace. Notwithstanding this, knowledge-sharing amongst consulting engineers across the industry is imperative, to ensure that the required changes and innovative solutions are widely implemented. The value of insights gained from practical industry experience and the ability of such insights to drive change cannot be overstated but this must take place within the wider industry at a pace very much faster than heretofore.

Considering the nature, lifetime, and potential long-term impacts of today's designs it is readily apparent that a step-change is required. The specific project level ACEI recommendations presented in the previous section are a first step in this direction. Neither consulting engineers nor their clients want projects and designs to end up being stranded assets and a liability on society. Consulting engineers need to reimagine design to embed sustainability and bring clients along on this journey.

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ACEI ENGINEERING
EXCELLENCE AWARDS

2022

ACEI PROJECT AWARDS 2022

The ACEI Engineering Excellence Awards were presented by David McHugh ACEI President 2021-2022 at the Annual Awards Dinner in the Shelbourne Hotel on 2nd September

Engineering Excellence Awards

To stimulate excellence and innovation among ACEI members, annual Engineering Excellence Awards are presented for completed projects. These awards are conferred on ACEI member firms whose project is considered by the adjudicator as the best of those nominated in each category.

The awards this year demonstrate the commitment of ACEI member firms to pursuing projects that will benefit communities and the environment. It is also important that all projects are well planned and designed to address resilience, long-term sustainability and societal impacts in line with the association's Sustainability Vision and Commitment to Climate Action launched in March 2021.

Sincere thanks are extended by ACEI to Tony Horan, ACEI President 2017 and to Eamon O'Brien, ACEI President 2000 for their painstaking work in adjudicating the 2022 Engineering Excellence Awards.



2022 – Project of the Year: Nicholas O'Dwyer Limited, Cork Lower Harbour Main Drainage Scheme



Winner – 2022 Project of the Year

Mark Armstrong, Senior Project Engineer; Jim Oliver, Managing Director, Gerry Monaghan, Project Director, and Martin Hickey, Senior Project Engineer, Nicholas O' Dwyer Limited accept the award for **Cork Lower Harbour Main Drainage Scheme**



Winners – Civil Category

Marisa Buyers-Basso, Senior Process Engineer Royal Haskoning DHV; Marcus Fagan, Technical Director J.B. Barry and Partners; Liam Clear, Technical Director, and Siobhán Moneley, BIM Director, T.J. O'Connor & Associates accept the award for **Ringsend WwTP Upgrade Project: Capacity Upgrade Contract**



Winner – Structural Medium Category

Robert McAuliffe – Project Engineer and Ciarán Kennedy, Managing Director, Barrett Mahony Consulting Engineers accept the award for **Guinness Enterprise Centre**



Winner – Structural Large Category

Conor Harrington and Ian Crehan, O'Connor Sutton Cronin accept the award for **Project Fitzwilliam**



Highly Commended – Structural Large Category

Greg Daly, Managing Director, GDCL Consulting Engineers Limited accepts the award for **WuXi Biologics**



Winner – Mechanical & Electrical Small Category

Trevor James, Director, Rhatigan Architects; Declan Holmes M&E Engineering, OPW; Sean Neary, Director, Warming Consulting Engineers Limited and Conor Clarke, Head of M&E Engineering, OPW accept the award for **Donegal Town Garda Station Refurbishment and Extension**



Winner – Mechanical & Electrical Large Category

Simon O'Brien, Joint Managing Director, Shane Brady and Conor Hayes, Homan O'Brien accept the award for **70 St. Stephen's Green**



Winner – Environmental Sustainability – Natural Environment Category

Ronan Stokes, Director; Marie-Claire Daly, Technical Director and Nicholas Heffernan, Technical Director, PUNCH Consulting Engineers accept the award for **National Forensic Mental Health Service Facility**



Winner – Environmental Sustainability – Built Environment Category

Cian McGuinness, Geotechnical Director and Alex Rey, PMO Director, RPS accept the award for **Glasgow Airport Investment Area (GAIA): Ancillary Infrastructure**



Winner – Project Management Category

Emer Donnelly, Senior Project Engineer; Graham Reynolds, Senior Resident Engineer, Nicholas O'Dwyer Limited; Alistair Cussen, Associate and Jim Oliver, Managing Director, Nicholas O'Dwyer Limited; John Prendeville, Irish Water Project Manager; Cathal Kinsella, Senior Resident Engineer, Nicholas O'Dwyer Limited accept the award for **Vарту Water Supply Scheme**



Winner – Innovation Medium Category

Gary McBride – Prunty Pitches, Joe Prunty – Prunty Pitches, John Prenty - Connacht GAA, Brendan Heaney – TOBIN Consulting Engineers, Danijel Serec – DBS, Brendan Rudden – TOBIN Consulting Engineers, Kurt Reinhardt – Connacht GAA accept the award for **NUI Galway Connacht GAA Air Dome**



Winner – Innovation Large Category

Barry Williams, Mott MacDonald Ireland accepts the award for **Clonakilty Flood Relief Scheme**



Winner – Overseas Category

Gavin Reilly, Director, Water & Climate Resilience, Nicholas O'Dwyer Limited accepts the award for **Monrovia Raw Water Pipeline Project, Liberia**



David McHugh, ACEI presents the 2022 ACEI President's Award to Peter Lynch, Chief Executive, FuturEnergy Ireland



AWARD WINNING CONSTRUCTION PARTNER



Cleanrooms



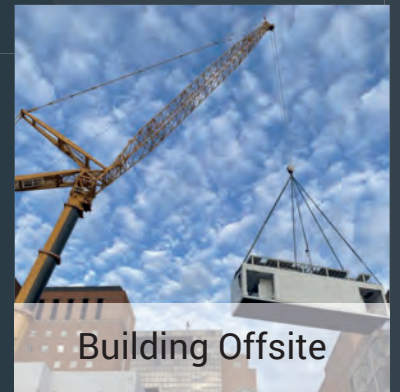
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WUXI BIOLOGICS

- **Duration: 18 Months**
- **Size: 15,000m²**

RESULTS:

- **Safety: +230,000hrs without reportable incident**
- **Quality: targets beat by 600%**
- **Schedule: System handovers compliance achieved**
- **Cost: Under budget**
- **Client Recognition: Contractor of the Month, Safe Plan of Action (SPA) of the Week, Crew of the Week (Quality), Safety Observation Record, SOR of the Week & Supervisor of the Week**

Ardmac were awarded the specialist Cleanroom construction on the biggest bio-pharma manufacturing facility to be built in Ireland on behalf of WuXi Biologics. The purpose-built facility at the IDA's 26 hectare site has been described as the 'Factory of the Future'.

Ardmac were contracted to complete a full cleanroom installation within two buildings on the WuXi Biologics site in Dundalk. The project involved detailed design assist with execution including project management, procurement and installation of all architectural elements within the cleanroom envelope. This included but was not limited to modular ceilings including lights and grilles walls, double flush vision panels, doors, furniture, flooring, and stainless-steel protections. The scope also included door automation and interlock controls along with eight downflow booths for client processes and manufacturing.

The cleanroom floor installations complimented a flush floor finish interface

with wall panels, furniture, and client equipment.

The cleanroom scope spanned 15,000m² with Grade C, Grade D and CNC room classifications. As part of design development and field execution a significant amount of trade partner constructability and coordination reviews were held focusing on the build sequencing and timing for planned works.

Ardmac employed over 300 people over the course of the project. WuXi is the 'world's largest facility using single use bio-reactors' based in Dundalk. Ardmac delivered the project using their SMART delivery model implementing Lean principles and techniques coupled with the latest digital field collaboration software to support the build efficiently.

Post contract award Ardmac immediately began implementing a robust planning process which would ensure project deliverables were achieved and set out a road map of how they would be achieved. Using the Last Planner System® (LPS) Ardmac were able to plan the project in an efficient and collaborative manner to ensure all waste, where possible, was mitigated. By using LPS on projects, Ardmac experienced improved safety & quality performance, collaborative approach, greater schedule certainty, constraint identification early (six week look ahead), root cause of issues analysed (at daily huddle), improved value for the client and a consistent customer experience. Research findings show that 54% of commitments made on construction projects are completed on time where LPS is not utilised. Percent plan

complete (PPC) on the WuXi project averaged at 92%.

Ardmac as a specialist contractor were engaged at an early design stage of the project to form part of a multi-disciplinary design team. On site, Ardmac used cloud-based collaboration and field management software to share and manage project information, which had very strong inspection, quality and safety management tools which enabled the completion of inspections and audits using any mobile device. Project performance data was captured in real time which gave the client great insights into potential issues and thus focusing on proactive rather than reactive analysis.

The project achieved practical completion in May 2021 with an extremely high-quality finish and a very satisfied project team and client.



ACEI ENGINEERING EXCELLENCE AWARDS: 2022 PROJECT OF THE YEAR

WINNER PROJECT OF THE YEAR: NICHOLAS O'DWYER LIMITED – CORK LOWER HARBOUR MAIN DRAINAGE PROJECT



Nicholas O'Dwyer Limited (NOD) was the sole engineering services partner for Ervia (the Major Projects wing of Irish Water) on the Cork Lower Harbour Main Drainage Project (CLHMDP), from concept stage through to project delivery. The CLHMDP involved major civil engineering infrastructure, valued at €144 million, for the collection and treatment of wastewater from Cork Lower Harbour, ending the discharge of 40,000 wheelie bins worth of raw sewage, daily.

The project involved the design and delivery of a 65,000PE wastewater treatment plant, which utilised innovative Nereda® treatment technologies. The collection network included construction of over 36km of large diameter sewers in busy urban environments, with complex geotechnical conditions and challenging topography, 20 new/upgraded pumping stations (up to 590l/s), implementation of an integrated SCADA system, and rehabilitation of existing sewers and water mains. The Estuary Crossing Contract involved the design and delivery of two pumped rising mains (1.2km long, 500mm

diameter) from Cobh to Monkstown underneath the River Lee Estuary, via Horizontal Directional Drills (HDD).

NOD's services included re-engineering the preliminary design (new pipeline reduced from 74km to 36km), preparation of specimen designs, detailed designs, contract documents, procurement, and construction management. NOD was responsible for procurement and management of 28 investigation contracts and obtaining consents (Strategic Infrastructure 146b planning alterations, Foreshore Licences, Compulsory Purchase Orders and Section 50 consents).

Until 2021 the agglomerations in the lower harbour discharged raw untreated effluent directly into the harbour, at an average rate of 170 litres per second, the equivalent of almost one wheelie bin being dumped into the harbour every second of every day. This breached national and European Legislation, particularly the Urban Wastewater Treatment Directive. The project's successful delivery ceased this practice, unlocking Cork Harbour's potential as an amenity, supporting economic growth and development and increasing the potential for tourism and recreational activities.

The project presented multiple complex challenges that were overcome through innovative engineering solutions, robust suites of contract documents and a collaborative approach between the client, NOD and the contractors;

- **WWTP Programme Constraints:** Ervia required delivery of the WWTP within 18 months of contract award.
- **Estuary Crossing Infrastructure:** A major challenge was connecting the networks on the Great Island to the downstream network and WWTP located on the mainland.



Anaerobic Digesters were also constructed which harvest methane from the treatment process – The methane will be used to power the onsite gas generators which in turn will provide power for the treatment process



Jack up barge set up in the middle of Cork Harbour - interfacing with the shipping lanes. The barge facilitated the SI required to inform the design of the HDD Estuary Crossing

- **Heavy Civils in a challenging Environment:** The project involved construction of large gravity sewers (up to Ø1200mm) and pumping stations in heavily constrained urban environments, necessitating deep excavations in close proximity to historical buildings, some of which already exhibited structural distress. The proximity of the works to the estuary meant that tidal influence was a significant challenge on the project. The topography of the catchments introduced additional challenges, particularly in Cobh where the town is built tier upon tier.
- **Works in the Estuary:** Extensive works in the foreshore were required to construct the outfalls associated with the CSO's. SI of the estuary bed was also required to inform the estuary crossing design, the SI was undertaken at multiple points across the estuary within busy shipping lanes. Foreshore licenses were required, alongside engagement with the Port of Cork to ensure no disruption to shipping lanes.



Overview of the Dockyard PS – the terminal pump station in Cobh. Approximately 70% of the station is located below ground

- **Public Interface:** Pro-active interface with the public was undertaken from an early stage of the project, facilitating smooth delivery during the construction phase.

As part of the CLHMDP, a state-of-the-art wastewater treatment plant was delivered using Nereda® technology. Nereda® is a modern process which treats larger volumes of wastewater to a higher standard on a smaller site footprint. This was one of the first large projects where this technology was delivered. The WWTP design included two Anaerobic Digestors that recover methane from the process facilitating on-site power generation which offsets the plant's energy requirements. This renewable biogas significantly reduces the net carbon footprint of the process. Through efficient design and a collaborative approach, the WWTP plant was operational less than 18 months from contract award.

Delivering a link between Cobh and the mainland was one of the major complexities associated with the project. During design development, NOD undertook a detailed study to determine the optimal estuary crossing construction method. The study involved a bespoke and detailed Analytic Hierarchy Process (AHP) - which identified HDD as the preferred solution. The design of the estuary crossing pipeline involved careful consideration of the highly complex and fractured nature of the geology in the harbour, characterised by fault lines. The challenge was enhanced due to the work's proximity to the Cork Harbour Special Protection Area and the Great Island Special Area of Conservation. Through the delivery of a suite of marine investigative surveys and collaboration with the UCC Department of Geology, NOD gained comprehensive



Construction of a Ø750mm gravity sewer at depths of up to 5mBGL along an embankment above the harbour. The topography of the catchments as well as the condition and age of existing buildings and retaining structures were a particular challenge on this project

understanding of the harbour's geological conditions. NOD applied this understanding to deliver a design that effectively mitigated the environmental and technical constructability risks, culminating in the delivery of one of the longest successful HDD installed pipelines constructed in Ireland to date.

Delivering the scheme through existing built environments presented additional challenges which required innovative solutions. One trunk pipeline had to pass through a 19th century cut-and-cover tunnel with the rock profile just beneath the surface. NOD collaborated with UCD's materials department to assess the feasibility of using Soundless Chemical Demolition Agents to construct the pipeline in this constrained environment.

The entirety of the Monkstown Pumping Station structure was positioned below ground level to preserve the scenic nature of the coastline. Given the spatial constraints of the site and its proximity to the harbour (tidal influence), the largest rectangular caisson solution in Ireland was developed, which involved building the structure above ground and sinking it into position under its own weight.

The project was packaged into five distinct contracts, each presenting its own challenges and constraints. The contracts were delivered under bespoke forms of contract, tailored to reflect contract-specific objectives and risks. NOD managed the delivery of these contracts through detailed specimen designs and meticulous contract drafting, particularly at project interfaces where NOD balanced the need for the Contractor's flexibility in its method of delivery, with the need to prevent cross-contract interfaces from negatively impacting the programme and/or budget.



Overview of the WWTP – the use of Nereda® technology resulted in the footprint of the 65,000PE WWTP being relatively small



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ACEI ENGINEERING EXCELLENCE AWARDS: CIVIL

WINNERS: T.J O'CONNOR & ASSOCIATES, J.B. BARRY & PARTNERS AND ROYAL HASKONINGDHV – RINGSEND WASTEWATER TREATMENT PLANT (WWTP): CAPACITY UPGRADE CONTRACT



Completed CUC with process equipment plinth in foreground

Since 1906, Ringsend Wastewater Treatment Plant (WwTP) has been treating the wastewater of the Greater Dublin Area agglomeration comprising of the geographical area of Dublin City Council and parts of the functional areas of Fingal, South Dublin, Dun Laoghaire Rathdown and Meath County Councils. The original plant was a Primary Treatment facility incorporating the disposition of primary sludge at sea, which continued until 1998.

In 2005 the plant was significantly upgraded to include Secondary Treatment and Sludge Treatment for a nominal/design load of 1.64 million Population Equivalent (PE). The 2010 EPA Discharge Licence for

the plant, imposed a Nitrogen (N) and Phosphorous (P) discharge standard of 10 mg/l and 1mg/l respectively, as the receiving Lower Liffey Estuary, was designated a nutrient sensitive waterbody under the Urban Waste Water Treatment Regulations 2001 (S.I. 254 of 2001).

In 2016, Irish Water commissioned T.J O'Connor & Associates, J.B. Barry & Partners and Royal HaskoningDHV (collectively known as the 3JV) as their consultants to design, plan, procure and project manage the overall upgrade of the Ringsend WwTP to comply with the 2010 EPA Discharge Licence and to treat an increased PE of 2.4 million. The innovative Royal HaskoningDHV patented Nereda® Aerobic Granular Sludge (AGS)

process, was procured by Irish Water and “Free Issued” to the Contractors as the chosen treatment process for the Ringsend secondary treatment plant upgrade.

This commissioned work which is ongoing comprises several highly complex upgrades to the plant summarised as follows:

- Capacity Upgrade Contract using Nereda® AGS technology - 400,000 PE new build;
- Existing SBR Conversion to Nereda® AGS technology - 400,000 PE retrofit capacity increase (four contracts);
- SAS Upgrade to increase sludge thickening capacity;
- New P-Fixation facility;
- Sludge Line Enhancement;
- MIC Increase;
- SCADA Upgrade.

The 2022 Award for Excellence in Civil Engineering was specifically for the Capacity Upgrade Contract (CUC).

The following features of the CUC Contract were highlighted for the Award:

Excellent interaction and communication amongst over 250 professionals across multidisciplinary teams within the Client, Irish Water, Consultants and Contractor organisations to successfully deliver a highly complex automated wastewater treatment system in a BIM Common Data Environment.

Selection of the Nereda® process, facilitating treatment capacity over conventional treatment options, within the limited site footprint, eliminating the requirement for the originally planned 9km Long Sea Outfall Tunnel, mitigating its associated risk and cost uncertainties.

The Exemplar / Specimen Design for the CUC consisted of a two-tiered structure configuration to cater for the Client’s selected innovative AGS (Nereda®) process technology and was based on non-linear geotechnical modelling, for which extensive site investigations had been undertaken to provide the appropriate data. This followed on from the approach adopted by T.J. O’Connor & Associates in their design of the existing SBR’s which were completed in 2005 and which were six times larger than the CUC. Driven cast-in-situ piles were used on the original SBR’s whereas CFA piles were used for the CUC.

Complex design and construction on a piled foundation in poor ground, prone to settling for the 110m x 36m x 20m high Main Reactor Block, subject to the dynamic variable loads associated with the different hydraulic conditions generated by the Nereda® process;

Design and construction of a 110m long x 5m wide Equipment Plinth and associated 110m long x 20m high steel support structure with all elements designed to allow for relative movement in three directions between the plinth and the Main Reactor Block.



Aerial view of overall RGD Wastewater Treatment Plant following CUC completion



Ongoing construction of Lower Deck Reactors

The project also provided for the design and construction of:

- An MCC Building on existing buried structures;
- Nereda® MEICA equipment in 7.5m deep 2-tier reactors;
- Extensive interfaces with the existing live operational plant;
- A highly automated plant controlled by a bespoke Nereda® Controller complete with future connections to the Dublin Regional Telemetry System.

The Contractor chosen to execute the Design Build Operate contract was a joint venture between Veolia Ireland and P.J. Hegarty & Sons (VPJH), appointed as PSDP and PSCS for the project. The chosen Conditions of Contract were FIDIC Gold Book. Monthly programme

reports were delivered using Primavera P6 in accordance with Irish Water requirements.

An RE team of experienced professionals with previous experience of the 2005 Ringsend site was assembled for the execution of this project, comprising of Civil, MEICA and structural professionals. Irish Water PMs maintained an active presence on site for the duration of the construction works. The ER team under the guidance of an experienced PM, comprising of all disciplines across the 3JV, interacted extensively both on site and remotely with all parties in the successful execution of the project. Lessons Learned and Cost Control workshops were a regular feature on the project. Earned Value Management was used to track project expenditure relative to completed work.

Health and Safety was managed on site with all stakeholders adopting a collaborative and inclusive approach to the importance of safety on such a complicated site, resulting in an excellent safety record for the project. HAZOPs and CHAZOPs were executed throughout the project with the aid of 3D Model, providing complete visualisation of the ultimate finished product, comprising almost 3,000 tagged assets.

With up to a maximum of 2,500 l/s of high-quality compliant treated wastewater flowing from the CUC, the successful completion of this project in January 2022 delivers significant benefit to the population of the Greater Dublin Area and the natural environment of the Lower Liffey Estuary for many years to come.



View of Upper Deck Reactor in operation

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ACEI ENGINEERING EXCELLENCE AWARDS: STRUCTURAL – LARGE

WINNER: O'CONNOR SUTTON CRONIN – PROJECT FITZWILLIAM



Fitzwilliam Street load bearing brickwork elevation

We in O'Connor Sutton Cronin, together with our client ESB and the entire Project Team are extremely proud to receive the recognition of the ACEI Award 2022 in the Structural Category-Large Projects for Project Fitzwilliam. This project, designed as a collaboration between Grafton Architects and O'Mahony Pike with structural and civil design by O'Connor Sutton Cronin and constructed by PJ Hegarty & Sons as Main Contractors, has delivered a unique redevelopment of a city block located within the historic Georgian Core of Dublin.

The development replaced the 1960's built ESB offices on a brownfield, city centre site and required the careful demolition of existing structures adjacent to existing protected structures. The main portion of the Project Fitzwilliam Development was split into two blocks over a common basement with No 27 Fitzwilliam (Block B) forming the New ESB Head Office and No 28 Fitzwilliam (Block A) a speculative office development. The project consists of a 5-7 storey reinforced concrete flat slab structure over double, and part triple, level basement providing c.30,000m² of office accommodation in an



Project Fitzwilliam aerial view

overall development of c.42,000m². The second portion of the development comprised the renovation of nine Georgian structures on Mount Street Upper which have been renovated and restored with a mixture of residential and office use for same.

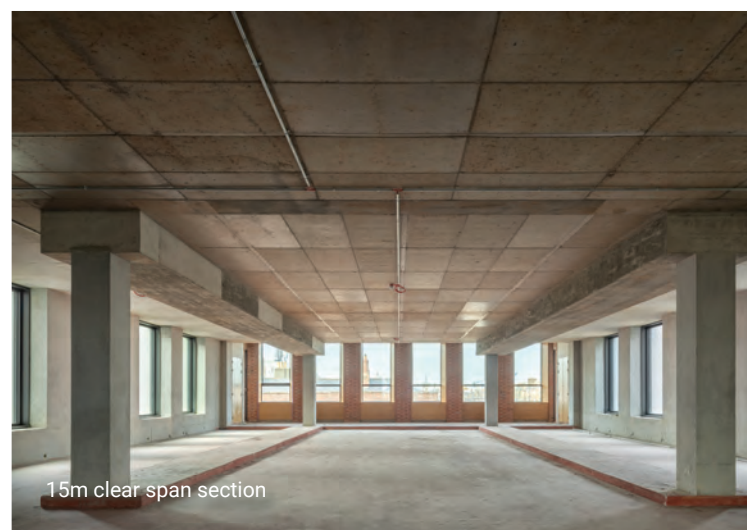
A detailed site investigation for the project was undertaken to assess the prevailing ground conditions on the site, highlighting a marked variance in rock levels across the site. A review of 1757 Rocque historical mapping for the city identified an historical quarry, explaining the reason for variance in rock levels and giving the origin of the name Rock Lane to the access off Baggot Street. In response to this, the sub-structure consists of two distinct foundation solutions with the northern portion of the site consisting of a foundation slab bearing directly onto bedrock with the presence of the historical quarry to the south necessitating a piled foundation solution.

The superstructure consists of RC flat slab construction, with a typical slab thickness of 325mm at suspended slabs, with a deeper slab thickness of 350mm at ground floor and roof levels to account for larger build-ups. The perimeter concrete elements behind the 3m module of precast façade are engaged with the structure and act as load bearing elements throughout, leading to the adoption of transfer structure at lower levels to achieve the clear spans and building offsets in the architectural design. This structure, together with the Vierendeel elements, required a significant temporary works and formwork arrangement to be provided with extensive co-ordination between

OCSC, Main/sub-contractors and temporary works designers to ensure the works would be constructed in a safe and efficient manner.

Due to a number of factors, slipform construction was chosen as the most efficient means of delivering the RC cores. This method of construction involves a continuous 24/7 operation with fixing of reinforcement and placing of concrete continuing as the working platform slides up the core with each core taking between 5-10 days to complete depending on plan area.

The project includes a number of innovative and novel uses of concrete in the form of vierendeel trusses. The first of these are used to provide a two storey high 18m



15m clear span section



Feature stairs

wide structural block with a clear span of 15m over a triple height/part four storey height space underneath. This block consists of two vierendeel trusses integrated into the outer walls of the space with downstand beams at third points across the width of the block to limit the load onto the vierendeels. The aspect ratio dimensions of the horizontal and vertical elements of the trusses are co-ordinated with the precast façade elements with the edges of the concrete offset from the façade elements by a consistent dimension to allow for the window frames

and finishes. The same engineering principles were adopted in two of the rear courtyards facing onto James Street East, but with the trusses acting as cantilever elements extending up to 7m in this area and supporting three storeys above the double height structure.

Design quality was a key objective in the client brief for the Project Fitzwilliam development. The building has been designed to be sympathetic to its setting but to display proudly its fabric in the form of exposed concrete finishes internally with a mixture of hand-laid brick and precast concrete externally. The architectural and structural design along Fitzwilliam Street sought to use brickwork as a primary load bearing element, as opposed to a cladding element as would most commonly be the case in modern construction, to complement the setting of the development.

The project incorporates a number of sustainability measures such as GGBS used throughout the main structure with up to 70% replacement of cement in portions of the substructure and basement and 30% generally throughout the superstructure. The use of slipform technique for the cores, with the same platform adopted for use on all seven cores that were constructed with this technique, requires a fraction of the shuttering and formwork which would otherwise be required. The project has been designed to a 100 year design life to provide a durable and long lasting building into the future.



Baggot Street/James Street elevations

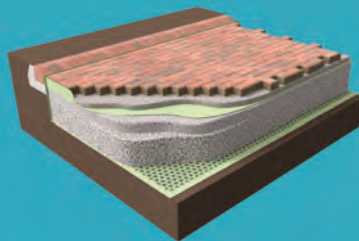
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ACEI ENGINEERING EXCELLENCE AWARDS: STRUCTURAL – LARGE

HIGHLY COMMENDED: GDCL CONSULTING ENGINEERS – WUXI BIOLOGICS PROJECT



Aerial View – WuXi Biologics under construction

The completed WuXi Biologics development represents a €350m+ investment at a circa 50 acre (20.2 ha) greenfield site, near Dundalk, Co Louth. The plant is the first for WuXi outside of China and with a gross floor area of more than 48,000 square metres, it is set to become the world's largest single-use biologics manufacturing facility.

There are four main buildings all of which are steel framed. These are the Production Building, the Laboratory /Administration Block, the GMP Warehouse (incl. Cold Storage) and the Central Utility Building (CUB). There are also a number of ancillary structures, including site-wide Pipe Racking, Site Security Building, ESB Substation & Switch Room, Fire Pump House, and the

Wastewater Treatment Plant. Construction commenced in January 2019. The project statistics are impressive: The civils/site works involved excavation/moving more than 200,000 tonnes of soil and included installation of more than 4,000m of underground services. A stormwater attenuation pond (volume = 2,400 cubic metres) was designed to regulate post-development discharge of stormwater from the site. In excess of 2,900 cubic metres of concrete was poured, approximately 7,500 tonnes of structural steel framing erected, over 66,000 square metres of metal deck flooring laid, and more than 9,000 square metres of cladding /glazing installed. At peak site activity the project employed more than 2,000 construction workers - the facility will create over 400 jobs when in full production.

PROCESS & MECH /ELEC DISCIPLINES - 'DESIGN ASSIST' BY CONTRACTORS

To deliver the required schedule, IPS decided that design and construction must integrate / overlap at the earliest appropriate stage. The need for early progress on site meant that advanced delivery of structural design was required. This meant significant 'advanced coordination' effort was needed not only with other members of the design team but also with subcontractors from other disciplines who consequently were appointed on the basis of a 'design assist' approach. This effectively meant that on detailed design reaching approximately 60% stage, BIM Models were 'handed over' to trades contractors. Obviously, this could only happen through a gradual, controlled, process in accordance with IPS's strict BIM protocols, to ensure continuity of standards and compliance with design intent.

CIVIL/STRUCTURAL - 'BIM MODEL SHARING' TO EXPEDITE STEEL FABRICATION & CONSTRUCTION

For GDCL the structural design was more conventional because early packages (foundations, steelwork) needed to be procured and fabricated based on a completed design. However, although the 'design assist' approach was not feasible, other initiatives were taken – e.g. sharing of BIM modelling information with steel fabricator- allowing speed of information exchange during pre-fabrication. Files were shared, exchanged between different platforms (Revit, Tekla, Master Series) speeding up the review / approval process, also capturing late changes, minimising re-work in fabrication or on site.

GDCL SITE PRESENCE - MANAGING & MITIGATING DESIGN RISK

Due to the pace of design required to meet the fast-track schedule it was decided at an early stage of the project that GDCL needed resources on site to provide real-time design support during construction. GDCL therefore maintained an on-site engineering presence full-time throughout the civil/ structural construction phase, thus maintaining technical

and practical liaison with key contractors throughout the critical first 12-18 month period. This provided not only the normal structural design/construction interface but also a degree of necessary structural input and follow-through with other disciplines where structural advice was required to support the 'design assist' process. Despite all of the benefits of technology and modern communications, there still is nothing to replace the benefits of an experienced, effective senior engineer on site, with the ability to anticipate problems, communicate and make a decision on a day-to-day basis, in the heart of a fast-track project.

Another advantage was the ability also to maintain first hand liaison with our design office and keep a close eye on the evolving BIM model at the critical design/ construction interface on site. Throughout this period, simple but effective processes were initiated to control and mitigate risk, which included the following:

- Review RFI's and agree priorities for design schedule
- Sharing of design schedule with other disciplines to align priorities
- Manage GDCL's key design output (from site) - instructing our BIM team as follows:
 - Coordinate with latest contractor's BIM information as it became available.
 - Highlight all RFI's etc on squad check drawings prior to issue.
 - Manage release of 'construction' information with 'holds' introduced if necessary.
 - Release of 'holds' to avoid delay once 3rd party design was approved by GDCL.

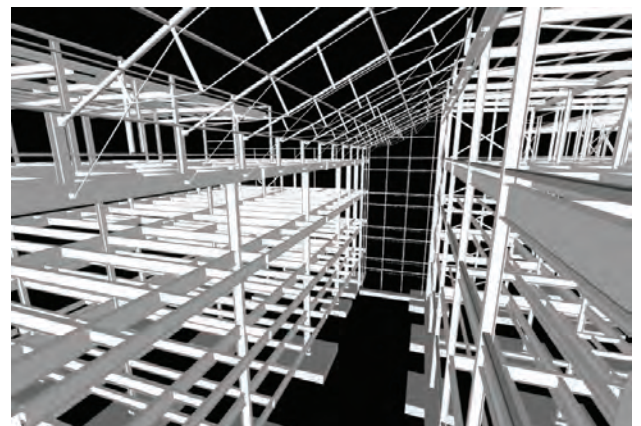
PROJECT TEAM

Design

IPS-Integrated Project Services (IPS) was appointed in 2018 as project managers and design team leaders. IPS provided engineering design services for Process,



Aerial View – WuXi Biologics under construction



WuXi Biologics atrium (Revit Model)



Aerial View – WuXi Biologics under construction



Aerial View – WuXi Biologics under construction

Mechanical/Electrical, Building Services, Electrical/ Instrumentation Controls and Process Architecture. IPS also provided Scheduling, Cost Control, and PSCS, while STW Architects provided architectural design for the shell and core. GDCL Consulting Engineers provided all Civil/ Structural design and acted as the BC(A)R 'Design Certifier' for the overall project.

Construction

Jacobs Engineering was appointed in early 2019 as the Construction Managers for the project. Jacobs led the construction effort with a very strong team of trades contractors including Wills Bros who performed the early enabling works before Jacobs was appointed and continued beyond that to complete most of the civils / site works including underground utilities infrastructure, paving hard and soft landscaping etc. Kiernan Structural Steel Ltd (KSSL) was another early appointment as it was essential to secure mill orders for steelwork and progress with steel fabrication in place in order to meet the programming requirements of a particularly fast-track schedule. PJ Hegarty Ltd, Collen and SIAC shared the responsibilities associated with building works, each contractor delivering on their own particular scope in a Jacobs' led coordinated construction effort. The process, mechanical, electrical works were executed by a number of leading contractors including Mercury Engineering Ltd, Jones Engineering Group, Kirby Group and Dornan Engineering.



Aerial View – WuXi Biologics under construction

WUXI BIOLOGICS, DUNDALK - PROJECT TEAM

DESIGN

Client:	WuXi Biologics
Project Managers:	IPS
Process Design:	IPS
MEP Design:	IPS
I & C Design:	IPS
Process Architecture:	IPS
Building Architecture:	Scott Tallon Walker Architects
Façade Consultant:	Billings Design Associates
Planning Consultant:	John Spain Associates
Fire Consultants:	MSA
Environmental Consultants:	AWN Consulting
Geotechnical Engineering:	AGL Consulting Engineers
Traffic Consultants	NRB Consulting Engineers
Landscape Architecture:	Cameo
Civil/Structural:	GDCL Consulting Engineers

CONSTRUCTION

Construction Managers:	Jacobs Engineering
Enabling & Civils Contractor:	Wills Bros
Steelwork Contractor:	Kiernan Structural Steel Ltd
Buildings Contractor:	PJ Hegarty Ltd
Buildings Contractor:	Collen Construction
	Cladding & Roofing
Contractor:	SIAC
GSI Contractor	Ground Investigations Ireland Ltd
MEP Contractor:	Mercury Engineering
MEP Contractor:	Jones Engineering
MEP Contractor:	Kirby Group
MEP Contractor:	Dornan Engineering

BC(A)R

Assigned Certifier:	Michael Kavanagh (Jacobs Engineering)
Builder:	Denis Hannon (Jacobs Engineering)
Design Certifier:	Greg Daly (GDCL Consulting Engineers)

In late March 2022 Kiernan Steel UK acquired full access to the former Premier Grip stationary manufacturing factory in Llandrindod Wells, Wales.

Based on a 5.5-acre site the new Kiernan Steel UK facility has the capacity to produce more than 7,000 tonne per annum in a manufacturing area exceeding 60,000 sq. ft. with great potential for future expansion.

Over the late spring and early summer of 2022 the following pieces of plant and equipment were installed and commissioned:

- 7 no. new gantry cranes varying in capacity from 3.2 tonne up to 16 tonne
- 2 no. Kaltenbach saw lines
- 1 no. new Ficep high speed drill line
- 1 no. Gietart shot blaster
- Over 19,500 sq. ft. of cross transfer capacity between machines
- 1 no. Voortman plate processing machine
- 1 no. Peddinghaus angle processing machine line
- 12 no. MAG welding units including fume extraction system
- 1 no. shear stud welding unit
- 2 no. Graco painting units

The fabrication area has three no. production lines that are serviced by two no. 16 tonne and two no. 6.3 tonne overhead gantry cranes that work in an area that has a height of almost 12m.

This height provides great flexibility for various types of manufacturing whether it be for deep heavy trusses, bridge sections or modular piperacks.

With a yard spacing exceeding 4 acres, Kiernan Steel UK have capacity to store large quantities of raw and manufactured steelwork. This gives clients great certainty of steel price for their projects with today's uncertain fluctuation of steel raw material prices.

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T: +353 (0) 43 33414455
E: enquiries@kssl.ie W: www.kssl.ie

UK Offices:

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Llandrindod Wells, Powys
LD1 6BH



Kiernan Steel UK Ltd
Cherry Orchard Farm
Sevens Hill Road, Iver
Buckinghamshire. SL0 0NY
T: 00 44 2088 108708



ACEI ENGINEERING EXCELLENCE AWARDS: STRUCTURAL – MEDIUM

WINNER: BARRETT MAHONY CONSULTING ENGINEERS – GUINNESS ENTERPRISE CENTRE



Aerial view of the Guinness Enterprise Centre

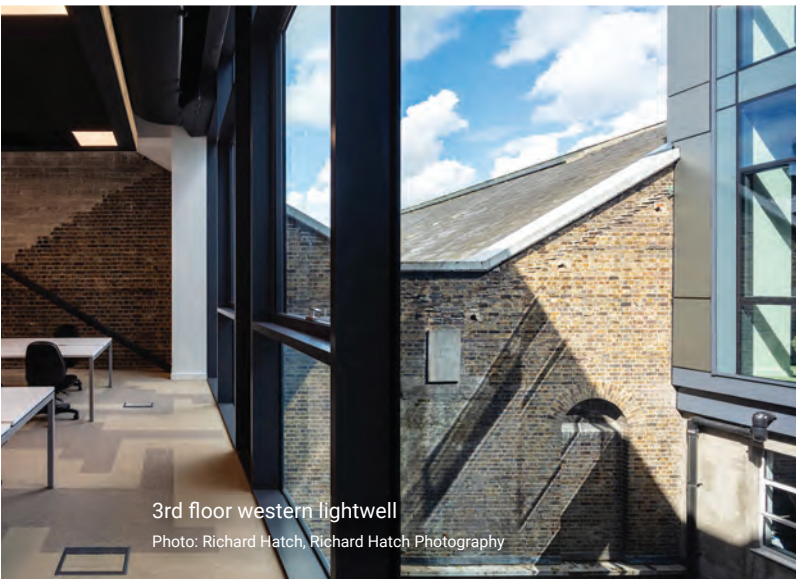
Photo: Tom Coakley, Barrow Coakley Photo & Video

The Guinness Enterprise Centre (GEC) is a former stables and forge which once served the Guinness brewery. In the 1990's the building was converted to three storeys of office space plus storage space at third floor level by Dublin Corporation. This took the form of precast floors on internal load-bearing masonry cellular wall structure supported on piled foundations. In 2018 funding was secured by GEC to construct an additional floor and convert the storage area to offices to accommodate the growing demand

for start up companies. A new lift and associated stair core was added to improve access to the existing and new floors.

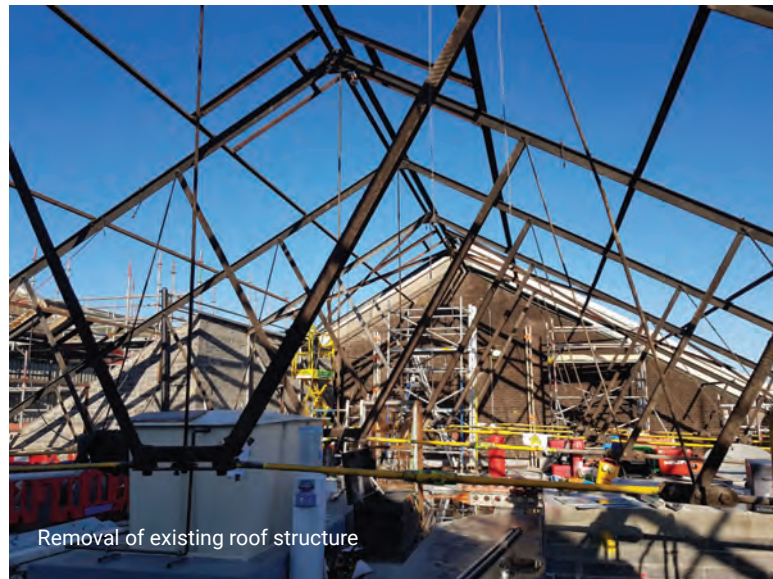
Barrett Mahony Consulting Engineers was commissioned to provide Civil & Structural Engineering services associated with these works.

The Guinness Enterprise Centre presented a fascinating opportunity to revitalise a historic building. The overall



3rd floor western lightwell

Photo: Richard Hatch, Richard Hatch Photography



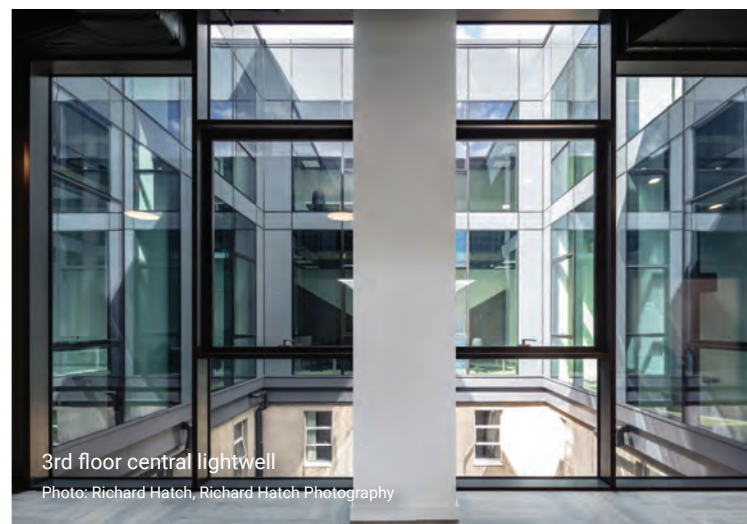
Removal of existing roof structure

design required the careful consideration of existing loads and the assessment of the load-bearing structure. A detailed structural analysis of the floors, walls and foundations was undertaken at project inception to ensure the feasibility of the proposed additional two storeys. This comprised load takedowns and 3D analysis to accurately assess the load paths. This was made possible by obtaining existing drawings and calculations from Dublin City Council, combined with extensive inspections. As the existing offices did not have wall finishes or false ceilings, it facilitated a clear understanding of the structural makeup of the building. Based on this initial analysis it was determined that the existing walls and piled foundations had sufficient capacity to take loads from a new lightweight steel framed structure.

This project was a unique opportunity to put the primary structure on show with steel columns, beams, composite decking and bracing members all expressed. The historic original brick structure is also visible internally at third floor level, forming a link of the old with the new. Original roof valley beams were also repurposed as a showpiece within the main reception area. Structural floor loads were kept to a minimum by the provisions of a shallow 150mm composite concrete deck at the new 4th floor level. At roof level, loads were reduced by utilising a 100mm deep profiled metal deck. The project was designed with efficiency in mind resulting in low material usage and subsequently lowering the carbon footprint. This can be demonstrated by the fact that an additional two storeys of office space have been gained using existing foundations with one of these floors utilising the existing attic structure which had originally been designed as a floor in the 1990's. The new roof has significant sedum green roof coverage to limit the outflow of rainwater from the building as well as promoting biodiversity.

The design involved a number of challenges associated with tying in to an existing building, all of which were overcome with efficient structural solutions.

The new steel columns were designed to be supported on concrete bearing pads above the existing load-bearing blockwork walls. The columns generally followed a regular grid arrangement, however it was established that in some locations the load-bearing walls did not align fully with the proposed column locations. This was checked on site by a simple operation of drilling from the soffit of the slab either side of the walls in question which confirmed the alignment and removed the risk of any potential surveying errors. Columns were adjusted to the correct position and uplift forces were resisted by holding down bolts and utilising the self-weight of the existing precast floors. However in some locations the distance to the nearest wall was too great and would have been detrimental to the architectural layouts. In these scenarios, heavy universal column transfer beams were used to transfer the loads

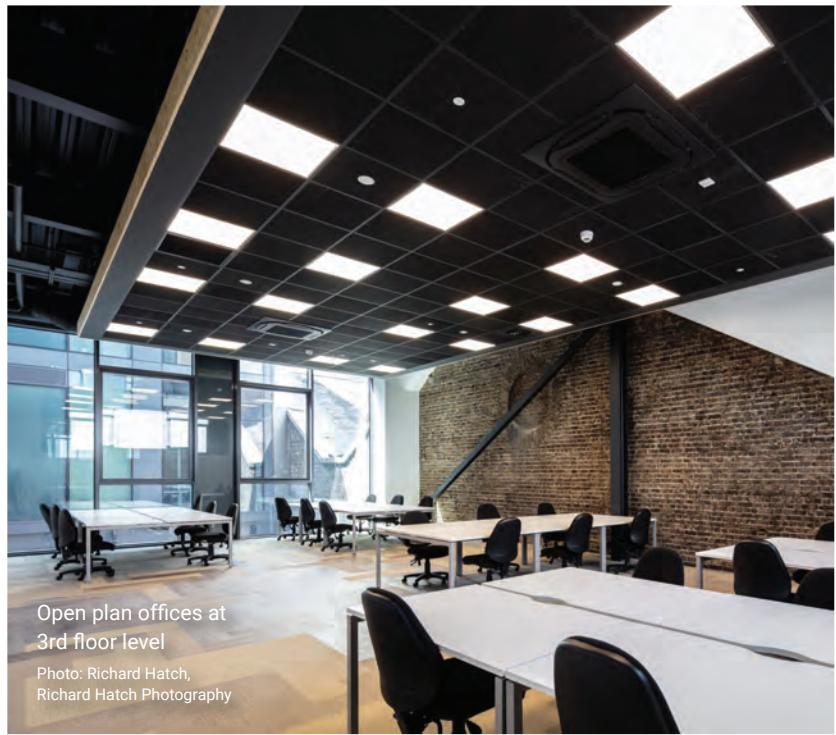


3rd floor central lightwell

Photo: Richard Hatch, Richard Hatch Photography



Stair and lift core extension



Open plan offices at 3rd floor level

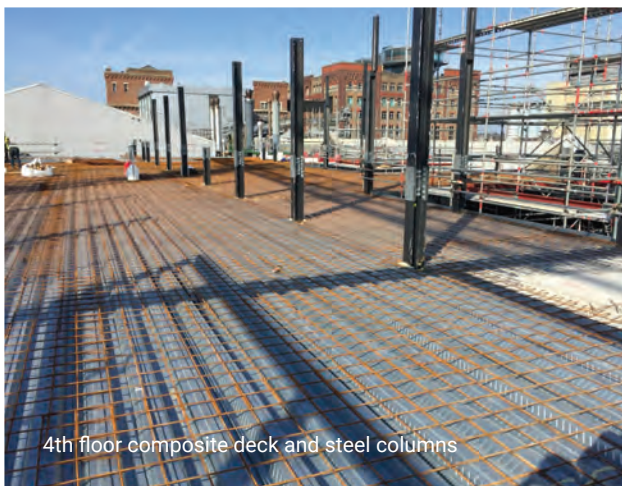
Photo: Richard Hatch, Richard Hatch Photography

from the columns to the perimeter structure and internal corridor walls. The depth of the beam was maintained within the zone allowed for the raised access floors at 3rd floor level.

During a desktop study prior to developing a structural scheme the book “The Rivers of Dublin” was reviewed. This identified a possible spur of the Poddle River passing beneath the building. This was also indicated on original structural drawings. It was important to determine its location as it was intended to construct new piled foundations for the dedicated staircore and lift structure. Thankfully, an external manhole was uncovered which was connected to an old culvert which was a number of metres away from the footprint of the new structure and flowing in a different direction and therefore the piles could be safely installed.

Overall stability of the new structure was examined in detail with different approaches taken in the two orthogonal directions within the main building. In the east-west direction, stability was achieved by bracing the steel frame with diagonal members. These were left exposed, forming architectural features within the office space. In the north-west direction the structure acted as a moment frame to prevent bracing members interrupting the glazed facade on the end bays. This required careful limitation of racking deflections for the facade system. The staircore was braced utilising K-bracing at each level, transferring loads to the new piled foundations.

From a health and safety perspective, the steel columns were deemed too long to be safely erected as a single member. This issue was discussed with the architects and steel fabricator and it was decided to splice the columns and express the connections within the main fourth floor corridor.



4th floor composite deck and steel columns

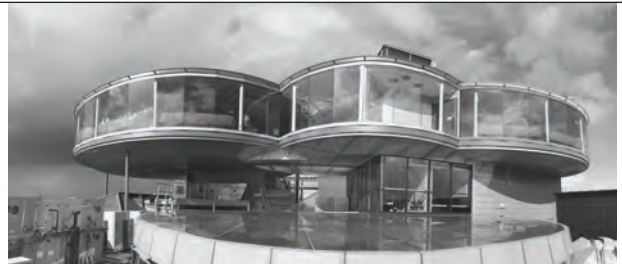
Within the existing ground floor footprint, the canteen area underwent significant changes with a load-bearing wall removed and replaced with a steel beam and column supporting structure, thus greatly increasing the usable space. As the original wall transferred loads as a uniformly distributed load on the existing ground beams, the original foundation drawings were examined to determine the location of the piles. This was confirmed by on site investigations and allowed steel columns to be positioned directly above the piles and avoiding overloading ground beams which were not designed for heavy point loads.



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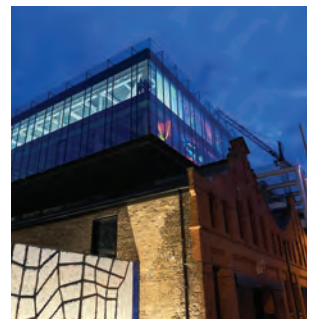
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ACEI ENGINEERING EXCELLENCE AWARDS: MECHANICAL & ELECTRICAL – SMALL

WINNER: VARMING CONSULTING ENGINEERS LTD – DONEGAL TOWN GARDA STATION



Donegal Town Garda Station completed in 2020

Varming Consulting Engineers Ltd is one of the leading mechanical, electrical and sustainability consultancies in Ireland.

With a history spanning 75 years it provides high quality, award winning design, specification and cost control services coupled with expert advice on sustainable solutions.

Varming Consulting Engineers Ltd. is dedicated to ensuring the economic, environmental and social

sustainability of our designs. We are committed to acting on climate in our own operations, limiting the impact of our clients' developments, and encouraging the transformation towards Net Zero Carbon buildings in the wider industry.

Varming Consulting Engineers was commissioned in Jan 2017 by OPW M&E Section as M&E Designers and M&E Ancillary Design Certifiers under BC(A)R to design the mechanical, electrical and lift services installations for the extensive, refurbishment and alteration to the existing

Donegal Town Garda Station, providing a modern fit out for the purposed facility. The building was handed over in Oct 2020.

An Garda Síochana in Donegal Town provides a comprehensive range of services such as Crime Investigation, Crime Prevention, Community Garda, Victim Services, and Road Policing.

The project forms part of the Government's '2016-2021 Garda Capital Plan' and it was a key milestone for the plan at handover stage.

OVERVIEW OF THE PROJECT

The original building dates back to early 20th Century while the most recent fit out of the Garda Station dates to the early 1980s.

This project involved extensive refurbishment and alteration to the existing Donegal Town Garda Station, providing a modern fit out for the purposed facility. The works included demolition of the existing two storey extension and storage shed, refurbishment of the existing station, construction of a three-storey over semi-basement contemporary extension to the rear of the existing station which included a new custody suite, with rooftop plant room, new boundary enclosures, secure storage, and all associated site works.

The building is located beside an attached live restaurant on the north end of the building and the project was surrounded on the other three side by existing roadways and Main Street, all of which created a very complex project with significant challenges for the Design Team and the Contractors to overcome.

The project achieved the highest standards of M&E performance based on an agreed budget costs, using state of the art engineering design to reduce the carbon footprint, improve reliability and minimises operating & maintenance costs.

The new Custody Suite and Interview rooms comply with the latest An Garda Síochana General Specification and Requirements.

THE KEY M&E DESIGN CHALLENGES ADDRESSED WERE

1. OPW M&E section requirements
2. Complex brief requirements from An Garda Síochana
3. The confined site and coastal location

The OPW required the M&E services installation to be cost effective, efficient, and reliable and ease of maintenance with local service back-up.



In-house computer modelling by Varming of the building design enabled various sustainable options to be evaluated. We prepared a Dynamic Simulation Model Report which verified full compliance with the Building Regulations Requirements and CIBSE design guidelines for the daylight factors, overheating and ventilation rates, indoor air quality and BER requirements.

- Varming Part L Modelling demonstrated that a building energy rating of A3 was achievable.
- We worked closely during the design and construction stage of the project with the other design team members and contractors to ensure the report requirements were met.
- The finished building achieved Nearly Zero Energy Building (NZEB) compliance and a BER of A3. This included measured Air Tightness of less than $3\text{m}^3/\text{hr m}^2$ (2.93) which was tested to I.S. EN ISO 9972:2015.

The project was also the winner of the Royal Institute of the Architects of Ireland (RIAI) Award in 2021 for: Culture Public and Sustainability.

An Garda Síochana required a new Custody Suite and Interview rooms that complied with the latest General Specification and Crime Prevention Officers Report.

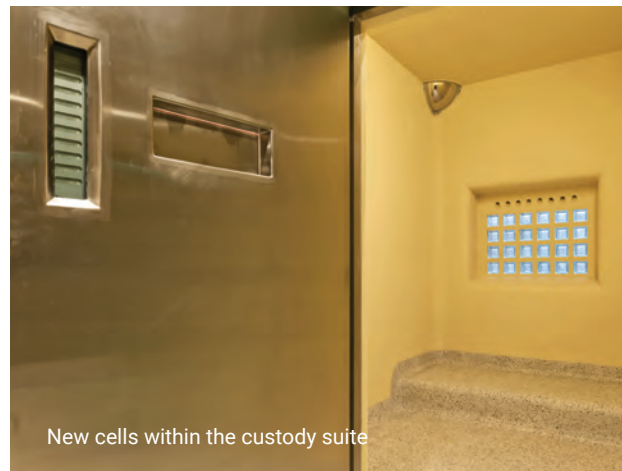
- We provided detailed 3D design drawings, specialist equipment drawings and benchmarked equipment schedules to ensure the M&E services installation meet the OPW requirements and An Garda Síochana needs.
- We implemented the crime prevention officer's report with early design stage engagement.



Circulation space



Reception desk



New cells within the custody suite

The works took place on a very confined and difficult site location.

- Due to the confined building size of 619sq.m we provided detailed design and co-ordination at an early stage of the project so that the necessary service voids, routes & risers and plantrooms could be incorporated within the building.
- The Building's new rear extension, was south facing and heavily glazed on the upper floors. A metal façade was provided to reduce the solar gains and glare.
- Due to the lack of free space on the site there wasn't any suitable location for oil or gas fuel storage, this lead to us proposing the installation of Air Sources Heat Pumps (ASHP) to provide the building heating and hot water demand.

KEY CONTRIBUTION TO A3 BER

The installation of Air Sources Heat Pumps (ASHP), enhanced insulation, air tightness and thermally efficient façade glazing contributed to the achievement of the A3 BER.

Natural daylight and ventilation were utilised where possible throughout the building. The radiators specified were designed to cater for the low flow and return temperatures from the ASHP to improve the coefficient of performance (COP) rating of the ASHP (COP 3.8). The radiator specified had low water content to improve the energy-efficiency, provide DBE (Dynamic Boost Effect) and to meet (nZEB) standards. Two port control valves linked to room sensors were provided on the heating circuit to ensure the building did not overheat.

The heat recovery units incorporate high efficiency counter flow plate heat exchanger (up to 80% efficiency) with automatic segmented 100% bypass facility.

OUTLINE OF THE M&E INSTALLATION

The building was provided with an automatic Building Energy Management System (BEMS). A remote control panel for the mechanical services plant was provided in the public office to avoid end-users having to access the rooftop plant to change settings or check for alarms.

Anti-ligature fittings such as Lighting, Grilles, Smoke Detection Aspiration units and Cell Call System was provided within the cells.

Due to the saline coastal environment a "Blygold" treatment was added to the external ASHP condensers, during manufacture, to safeguard against potential corrosion. An enclosed plantroom was located on the roof of the building to provide full weather protection and safe maintenance access to the Mechanical plant.

Three separate CCTV systems were provided to cover

- the main building and external areas,
- the custody suite and prisoner entrance area with audio recording,
- and the interview rooms with audio recording.

The mechanical systems included BEMS system, Drainage, Ventilation and Air conditioning, Heating, Water services, firefighting equipment and Smoke/Fire Damper Control & Monitoring System.

The electrical systems included LV switchgear, future provision for electrical car charging, site infrastructure, automatic barriers, cable containment, IT/comms & central core, General Services and Power, Mechanical wiring, Lighting and emergency lighting system, Fire alarm system to L1, security systems and intercom, cell & disabled toilet call system, panic alarms, audio system, intruder alarm, TV system, induction loop, lightning protection & earthing and bonding.



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ACEI ENGINEERING EXCELLENCE AWARDS: MECHANICAL & ELECTRICAL – LARGE

WINNER: HOMAN O'BRIEN – 70 ST STEPHENS GREEN



Homan O'Brien was commissioned to complete the design and site supervision of mechanical, electrical and vertical transportation services for a new 7000m² state of the art city centre office development for Irish Life. The new air-conditioned building replaces an existing 1960's office block (formally known as Hainault House) and extends to five floors over ground floor with a two-storey basement below. The brief was to create a contemporary office building within modern Dublin to suit the needs of today's working environment.

70 St Stephens Green has been designed to exceed best practice in sustainability and be an exemplar in commercial building redevelopment.

The innovative design strategies employed in a whole life cycle approach, deliver class leading energy efficiency with a specific focus on minimising carbon footprint, improving the environmental quality of the spaces, water conservation and enhancing the ecological value of the site.



Reception area

A forward-thinking decision was made early on to adopt an all-electric approach at 70 St Stephens Green before nZEB was a statutory requirement. This pioneering approach was taken, considering Homan O'Brien's analysis and future projection for carbon intensity reduction of the national electricity grid, to enable 70 SSG to be one of the first major offices in Dublin to be "Net Zero Ready" and achieve nZEB compliance.

The development achieved BER of A3 & nZEB compliance, LEED platinum, WELL Platinum, and WIREDSCORE Platinum, demonstrating class leading energy efficiency, comfort conditions and digital connectivity.

Homan O'Brien devised an innovative design strategy for the heating and cooling system to ensure that heating and cooling supply is generated efficiently but also delivered at low operational cost.

The system consists of two multifunction heat pumps capable of simultaneous heating and cooling with integrated VSD drives to enable heat supply to be matched to demand, with the ability to recover 100% of waste heat rejection when in cooling mode and reuse the energy when there is a demand for simultaneous heating and cooling.

Dynamic simulation modelling demonstrated an energy saving of 26% through the reuse of waste heat from cooling heat rejection. The building has different exposures with concurrent opposite loads, particularly in mid seasons while the domestic hot water heating requirement offers a steady base heating load.

The building is equipped with a water-to-water heat pump which is used for DHW heating. The electric water to water heat pump takes heat delivered at 45°C from the multifunction heat pumps and raises the heating flow temperature to 70°C which is sufficient for legionella prevention purposes to generate DHW.

While the heat pumps generate simultaneous heating and cooling at an impressive COP of 7.8 resulting in low energy costs, Homan O'Brien innovatively integrated thermal storage systems into the central heating and cooling plant to allow the building to be flexible with demand on the grid for power. This strategy also maximises the use of low night-time electricity tariffs resulting in lower running costs.

To achieve this, the heat pumps are coupled with a partial ice thermal storage system with a latent heat capacity of 1680 kWhs to enable the heat pumps to generate ice at



night which will be melted during the day to offset a proportion of the building cooling load at low running cost.

The heating system incorporates thermal storage to act as a heat sink while heat pumps operate at night in heat recovery mode when charging the ice thermal storage system taking advantage of lower night-time electricity tariffs and maximum efficiency of the multifunction air source heat pumps.

The development site is a constrained Dublin city centre site situated between two fully occupied conjoined buildings which also created significant design challenges such as a restricted plant zone at roof level to accommodate the rooftop plant including ASHPs, AHUs and Photovoltaic Solar Arrays.

Dynamic simulation modelling also demonstrated a requirement to achieve a low specific fan power (SFP) and high heat recovery efficiency on the central AHUs, however this proved difficult to accommodate with the restricted plant height permitted under the planning permission grant. The physical size of the AHU

section needed to be upsized to minimise pressure drop and maximise system SFP. An innovative solution was incorporated whereby the supply and extract sections of the AHU were designed in side-by-side configuration to minimise height and incorporated an interconnecting sloped thermal wheel to recover heat from the extract airstream at the maximum efficiency possible.

The project was Highly Commended in the RIAI 2021 Sustainability Awards.

LEED Platinum Certification achieved.

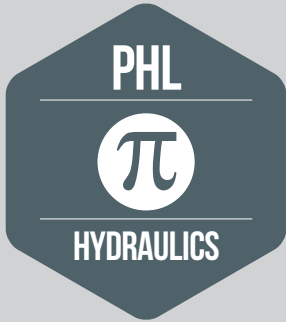
RIAI Architecture Awards 2021 – Highly Commended (Sustainability Category)

RIAI Architecture Awards 2021 – Selected for Exhibition

Irish Construction Industry Awards 2021 – Shortlisted for Green Project of the Year

Winner ACEI 2022 Award for Mechanical & Electrical Category – Large Projects





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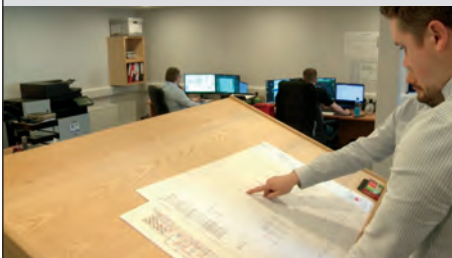


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ACEI ENGINEERING EXCELLENCE AWARDS: ENVIRONMENTAL SUSTAINABILITY – BUILT ENVIRONMENT

WINNER: RPS – GLASGOW AIRPORT INVESTMENT AREA (GAIA): ANCILLARY INFRASTRUCTURE



RPS provided design services for Wills Bros Civil Engineering on the GAIA project, which is being led by Renfrewshire Council and jointly funded by the UK and Scottish governments through the £1.13bn Glasgow City Region Deal. The project provides improved connections to Glasgow Airport including the realignment, upgrading and extension of the existing road network, a 70m long two-lane bridge for pedestrians, cyclists and commercial traffic across the White Cart River, a new 100m single span pedestrian and cycle bridge over the Black Cart River, and new and improved junctions and connections to existing cycleways and pathways.

It also included an engineered road crossing of a 132 kV oil cooled buried electrical cable in complex ground conditions, which is the subject of this application. These provide enabling infrastructure and connections into Netherton Campus, a 52ha site next to the airport. The National Manufacturing Institute Scotland and the Medicines Manufacturing Innovation Centre will also be located on the site. The two facilities will be central to the emerging Advanced Manufacturing Innovation District Scotland.

RPS were commissioned by Wills Bros. in 2018 to provide tender design, detailed design, and site supervision

services under a Design Build contract. RPS are also acting as advisor to the Principal Designer as required under CDM Regulations (equivalent to PSDP in Ireland). Construction began in 2019 and the works were completed in late 2021.

RPS developed an innovative and unique solution to the problem of constructing a new road over a set of buried electrical cables in a soft floodplain environment. The cables had fragile oil-filled cores and serve over 20,000 homes and businesses including Glasgow International Airport. They were very vulnerable to damage by settlement and movement, vibration, overheating and accidental damage during construction.

The innovative solution developed by RPS comprised an 'embankment' formed with recycled plastic Geocellular units, normally used for water storage applications, in a first use of this type of material for this purpose. These units are very lightweight, being over 95% air, which being robust enough to sustain traffic loads. This low weight reduces settlement of the foundation soil, and the cables themselves, and their permeable nature allows floodwaters to pass through the embankment easily. They are also air permeable, allowing the cable to remain cool, and not vulnerable to flotation. RPS specialist electrical engineers provided a detailed assessment of the effects of the proposals on heat dissipation around the cables which concluded there would be negligible impact on the operation of the cables.



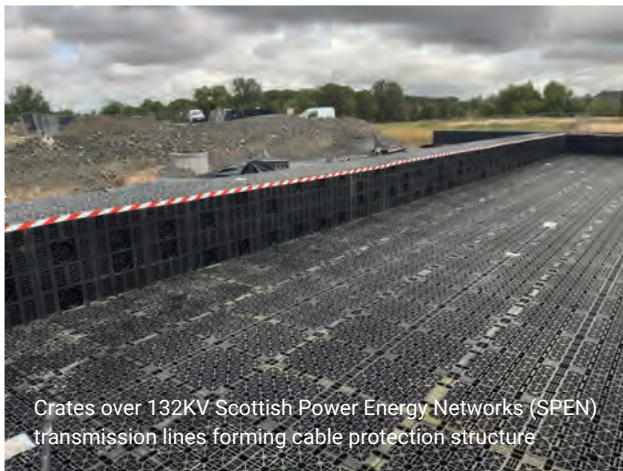
132KV cable protection structure (CPS)

The RPS design was proposed as a very significant improvement on the preliminary design, which comprised a conventional piled concrete bridge. It delivered an enormous saving in embodied carbon, while also providing for quicker and safer construction operation, and a reduced overall cost. A further advantage was that no heavy machinery needed to be used to assemble the structure, as the units are easily moved and placed by hand.

The project was one of nine worldwide to be recognised by the Institute of Civil Engineers in September 2021, at the inaugural 'Carbon Champions' awards. RPS Geotechnical Director Cian McGuinness was named as a Carbon Champion, along with Will Bros, in recognition of their efforts to quantifiably reduce the carbon emissions in the construction and infrastructure field.



Installation of Wright Street Link Bridge



Crates over 132KV Scottish Power Energy Networks (SPEN) transmission lines forming cable protection structure

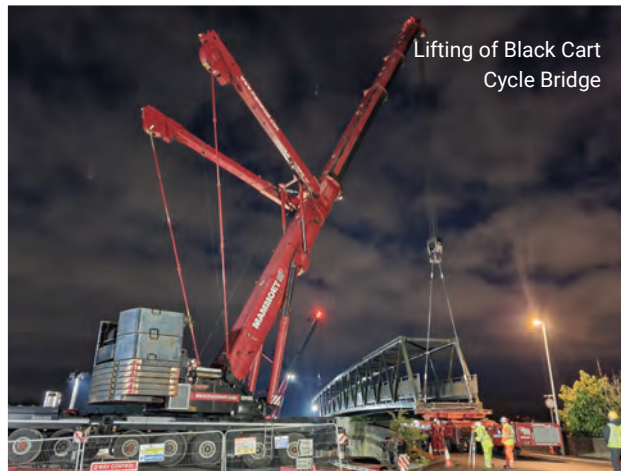
The carbon footprint for this Geocellular design was 197t CO₂e, which is 87% lower than the original bridge proposal with a carbon footprint of 1,546t CO₂e.

The preliminary design for the cable crossing proposed a structure to facilitate crossing the cables, supported on 22 bored concrete piles – each 30m deep – with precast concrete beams spanning between them. This structure was designed to prevent settlement of the cables in the soft ground, while also preventing any further embedment of the cable in soil, which could cause overheating and loss of electrical capacity.

The piled structure design also presented practical difficulties, such as the need to provide a heavy piling platform for piling operations, the risk of vibrations from piling damaging the cables, and the risk of accidental damage to the cables should the tall piling rigs accidentally overturn during construction.



Vertical drain installation



Lifting of Black Cart Cycle Bridge

The design was modelled using Plaxis 3D, a 3D finite element geotechnical analysis package to predict the future settlements under the embankment, and the future profile of the cable, as well as associated stresses and strains. This analysis showed that movements would be minimal, due to a combination of the low weight of the Geocellular units, and some stress relief achieved by embedding the crates below ground adjacent to the cable.

Whilst acknowledging that proposed solution was unorthodox, SPEN (Scottish Power Engineering Networks) – the asset owner for the cables – retained an open mind and ultimately accepted the design proposals.

After consulting various storm crate manufacturers Wavin's Aquacell range was selected. Benefits included the fact that the crates are formulated from 100% recycled plastic materials and manufactured locally in the UK. The crates were combined with a specialist lightweight fill – 'LECA' – and a very small quantity of lightweight concrete for a slab directly beneath the road.

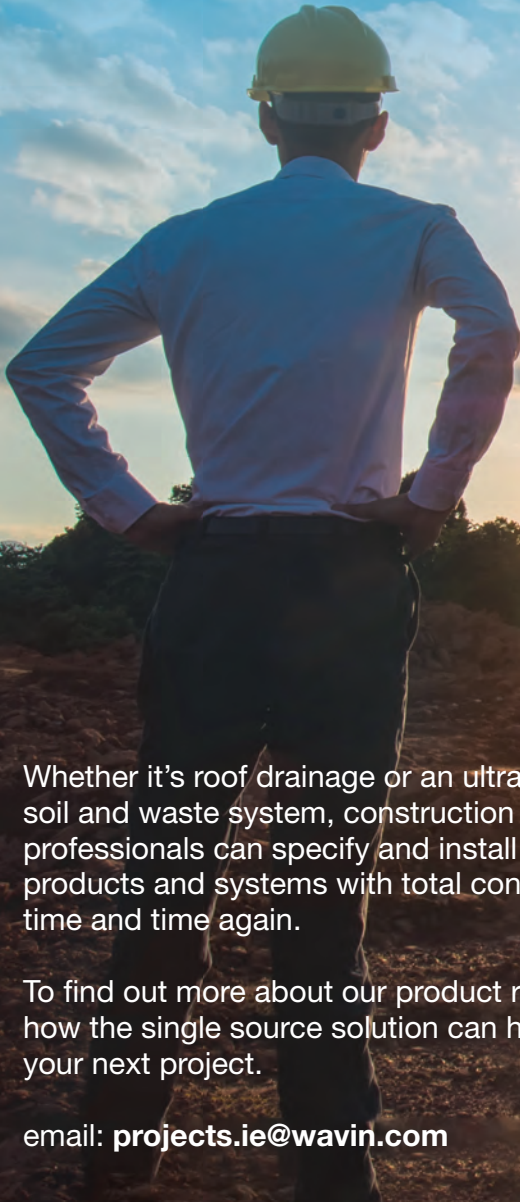
To validate the successful performance of the structure, regular monitoring for settlement has been ongoing since construction commenced. There has been very little change in the observed levels over the 15-month period with cumulative settlement well within the expected limits of 5mm. A hydrostatic settlement gauge within a duct adjacent to the cables was also used to monitor any movements but this also recorded negligible changes in level.

The project was one of the first to be delivered to the PAS 2080 (Carbon Management in Infrastructure) standard, which. This involved tracking the project's carbon footprint throughout the prelim-design, detailed design, construction process, and operational stages to maximise both embodied and operational carbon – as well as overall cost for delivery.



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ACEI ENGINEERING EXCELLENCE AWARDS: ENVIRONMENTAL SUSTAINABILITY – NATURAL ENVIRONMENT

WINNER: PUNCH CONSULTING ENGINEERS – NATIONAL FORENSIC MENTAL HEALTH SERVICE FACILITY



Reception Building at main entrance to facility

PUNCH Consulting Engineers was appointed in 2012 by the HSE as Civil, Structural, Hydrology and Traffic Engineers for the National Forensic Mental Health Service facility (NFMHS) at St Ita's Hospital Demesne, Portrane, Co. Dublin. This major facility is now the designated centre in the State providing acute, medium and long-term psychiatric care in high-security conditions. The NFMHS replaces the Central Mental Hospital in Dundrum, Dublin.

The 170-bed NFMHS hospital is located on a 13-hectare site within St. Ita's Demesne in Portrane, Dublin. It comprises several treatment units housed separately within ten buildings, totalling 25,324m² gross floor space. These units include:

1. A 130-bedroom National Forensic Hospital comprising the High Secure Unit, Medium Secure Unit, Mental Health and Intellectual Disability Unit, Female Unit, Pre-Discharge Unit, Reception Building, Village Centre, and Energy Centre.
2. A 10-bedroom Forensic Child and Adolescent Mental Health Unit.
3. A 30-bedroom Intensive Care Rehabilitation Unit.

The vision of the NFMHS as a state-of-the-art centre of care is founded on the rejuvenation and renewal of its patients. Every engineering choice that was made in the development of the NFMHS was as sympathetic to this vision as the choices the NFMHS medical treatment team will make to restore their patients' wellness. The

engineering solutions are therefore authentic to the facility's purpose.

PUNCH provided innovative engineering solutions throughout the design and construction stages to ensure an efficient and environmentally conscious development was delivered. The engineering solutions proposed compliment the focus of the facility, which is on rehabilitation and wellness of its patients.

Typically, stormwater solutions for proposed developments involve sustainable drainage systems which act to reduce and restrict stormwater leaving the site. However, with a focus on rejuvenation and renewal, a different approach has been implemented on the NFMHS site.

The lands to the north of the NFMHS are wetlands. There was ecological concern that these wetlands were drying out. In collaboration with Fingal County Council who own these lands, the project team looked at the possibility of rejuvenating the wetlands. PUNCH prepared a hydraulic model to assess the impact of an unrestricted stormwater outflow from the development site to the wetlands and beyond. Hydraulic scenarios were developed, and analysis was carried out that ranged from short duration high intensity rainfall events to longer duration lower intensity events. The analysis concluded that a free-flowing outfall from the development site to the wetlands was viable, as the wetlands could attenuate the 1 in 100-year storm for the development without negatively impacting lands downstream of the wetlands. To prevent scour of the wetlands at the point of discharge of the stormwater from the site, concrete energy dissipation baffles were constructed at the headwall.

For the construction stage of the works a large settlement pond was created to ensure excessive levels of suspended solids would not enter the wetlands and to prevent siltation of the wetlands. Weekly tests were



The NFMHS facility is set within a mature woodland area

performed to ensure this standard was maintained over the course of the works.

The surface water drainage outflow to the wetlands has now been in operation for approximately four years. An increase in wildlife has been observed in the wetlands since the stormwater discharge was introduced, which includes sightings of ducklings indicating establishment of nesting in the area.

St Ita's campus lies on a small hill in a relatively flat area by the coast. The site chosen for the new facility was on a steeply-sloping clearing between trees. Due to the requirement to integrate the architectural design into the landscape and the density of the services required within the high-secure facility, approximately 145,000m³ of excess cut material was generated.

Surplus soil is typically removed from site and exported to a waste facility. However, an alternative approach was proposed for the NFMHS that complimented the rehabilitation of ecology in the area and reduced the impact on the community of Donabate and Portrane.

The full quantity of excess soil was reused within the St. Ita's complex to the benefit of the local ecology



Village Green with Visitor Centre



View from Reception Building towards ICRU Building



Extensive landscaping brings nature into the heart of the NFMHS

and the facility's patients, and therefore no waste soil was exported from site, removing over 40,000 truck movements through the area. This had a major benefit to the village of Donabate which lay on the only access road to the site.

Furthermore, the full quantity of excess cut soil from site profiling and excavation of arisings was reused completely within the St. Ita's complex to rejuvenate the local ecology and benefit the facility's patients. This was achieved through incorporation of the following elements:

1. A berm was incorporated into the design to protect patients from public view. This berm had a second function where invasive plant species that were identified on site were encapsulated with a geomembrane and buried within the berm to prevent their spread.
2. Optimum sunlight was achieved at the patient horticultural area by manipulating the levels on a north facing slope, producing plateaus where patients will be able to plant, grow and nurture their own vegetables and flowers. This activity will form part of the patients' program towards wellness.
3. Low nutrient excess subsoil was spread in an outer compartment at the St. Ita's complex that had previously been intensively farmed, to benefit a wildflower meadow proposed.
4. A pond for wading birds was formed to encourage the reestablishment of waders in the area.
5. High-nutrient excess topsoil was spread in areas that were designated at the St. Ita's complex for woodland establishment.

Given the steeply sloping nature of the development site,

several retaining elements were required throughout the site. Vegetated retaining and slope stabilisation systems were implemented where possible instead of concrete retaining walls to promote a natural feel to the site. This will ultimately benefit the local ecology through growth of sown wildflowers and this careful attention to the landscaping will positively impact on the facility's patients.

Opportunities to create a development that will promote the natural ecology of the area were sought out and implemented where possible. Recesses were included in the building facades to accommodate swift nest boxes and bat boxes. Wildflower meadows have been created throughout the site, and planting of trees and shrubs have been maximised on site.

Existing mature woodland surrounding the site was protected for the duration of the works. Walking trails were maintained and enhanced through the local woodland for the benefit of the public. An existing mature oak tree within the development site was retained and the site layout was carefully designed around this tree. To accommodate the proposed site levels, a retaining wall was required around the tree and irrigation has been provided to ensure it is not affected by the altered levels.

To conclude, the sheer scale of this project was always going to be a challenge to the natural environment in the area. By looking at the objectives of the project in relation to the care of the NFMHS clients, recognising the benefits that the natural environment brings, and applying best practice in design, significant environmental benefits were achieved for the NFMHS and the local community.



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ACEI ENGINEERING EXCELLENCE AWARDS: PROJECT MANAGEMENT

WINNER: NICHOLAS O'DWYER LIMITED – VARTRY WATER SUPPLY SCHEME



Vartry Water Treatment Plant completed. Vartry Reservoir in foreground

The Vartry Water Supply Scheme (WSS) represents a €150 million investment by Irish Water (IW) to ensure a safe and secure water supply to 200,000 customers. Nicholas O'Dwyer Limited (NOD) was employed by IW to bring the project from concept stage through to the planning, design, procurement, construction supervision, and handover stages.

The original Vartry WSS was built in the 1860's as the first major treated water supply for Dublin city; its introduction resulted in eradication of cholera, providing huge improvements in public health. This project provides a much-needed upgrade to the original water supply scheme, which still serves most of the South Dublin and

Wicklow drinking water demand. Improvement works were separated into three separate contracts, which are now all in service:

- 1. Callowhill Tunnel Replacement Contract:** A new 4km pumped pipeline to replace the existing tunnel between the Water Treatment Plan (WTP) and Callowhill, as the existing tunnel risked collapse. This included the installation of a new generator to prevent interruptions to water supply and the installation of break pressure tanks along the pipeline.
- 2. Vartry WTP and Reservoir Upgrade Contract:** A new 80 MLD WTP to ensure water is treated to drinking

standards. Upgrade works to the 150-year-old dam including back-up siphon and spillway upgrade at the Vartry WTP site.

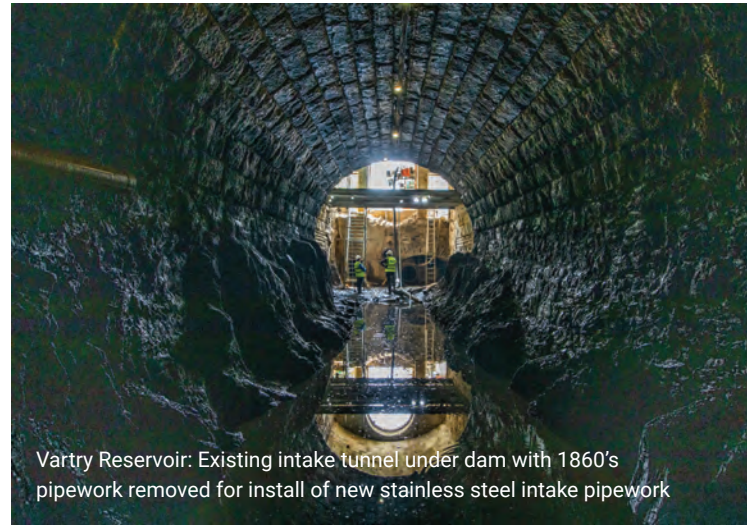
3. Stillorgan Reservoir Contract: A new 160 ML covered storage reservoir to replace the existing open storage reservoir in Stillorgan and reduce public health risks.

The project resulted in significant societal and environmental benefits including safer, more secure water supply, removal of the supply from the EPA's Remedial Action List, less requirement for final disinfection chemical addition to the water, and delivery of an important safety upgrade to the dam at Vartry.

This project spanned about seven years and is the largest clean water project to be delivered by IW. NOD was delighted to be associated with this project and assigned our most senior staff to manage our team of experts, ensuring that our Client's investment was targeted wisely and that they got value for money from their investment. The ultimate beneficiaries of the scheme are the 200,000 IW customers who were at risk of their water supply being cut-off through collapse of a section of the Callowhill tunnel, and whose supply was on the EPA's Remedial Action List (RAL) due to water quality concerns. The project delivery has removed the supply risk and removed the supply from the EPA's RAL.

The delivery of the project resulted in important societal/environmental benefits for the region:

- The project provides an additional 40 million litres of water per day which is vital for the provision of new housing in the region and the continued development of employment opportunities for communities. The project achieved this through development of a new WTP at Roundwood (Vartry WTP) and improvements to the existing infrastructure.
- The project greatly improved the water quality delivered to 200,000 customers while reducing water quality risks. This was achieved through development of a modern treatment plant, the elimination of infiltration from the Vartry tunnel and the covering of the reservoir at Stillorgan.
- The project provides security of supply to 200,000 IW customers, achieved through replacement of the Callowhill tunnel which was in danger of collapse, and through the provision of a modern treatment plant at Roundwood and covered treated water storage at Stillorgan.



Vartry Reservoir: Existing intake tunnel under dam with 1860's pipework removed for install of new stainless steel intake pipework

The Vartry WSS was an exceptionally complex project spanning three local authorities, involving a very large number of project stakeholders and interest groups, highly complex project sites with numerous critical interfaces e.g., SACs, Grade A dams, and three major contracts involving works on live ageing drinking water sites and adjacent to live drinking water assets. These complexities were managed using a highly collaborative and partnership approach with IW.

1. We implemented a bespoke Programme Delivery Methodology based on having the right people, the right processes and the right tools. Through our methodology we identified a significant project risk for obtaining Planning Permission. To mitigate this risk, we divided the overall project into three distinct Contracts, each scoped to be an independent contract, with the delivery of each Contract providing individual benefit to the water supply. This reduced overall risk and offered our



Vartry Water Treatment Plant under construction alongside existing slow sand filters



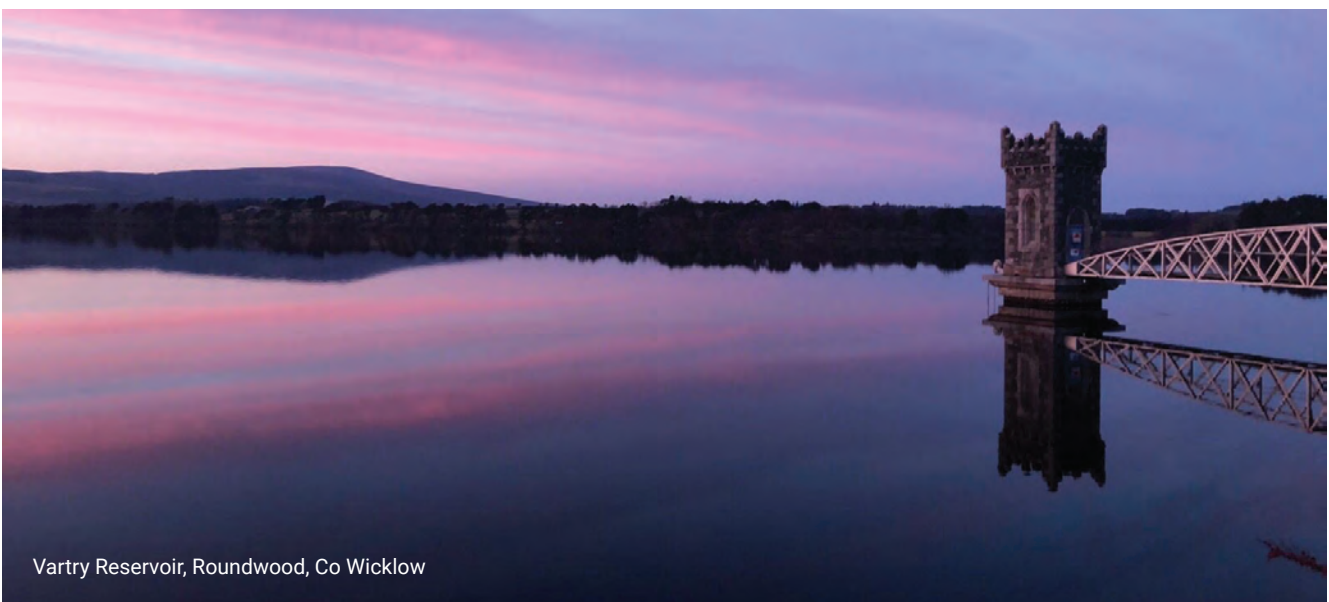
Stillorgan Covered Reservoir under construction. Existing open storage in operation

Client flexibility in project financing and programme, and also allowed for different Forms of Contract to better manage the Works undertaken in each Contract.

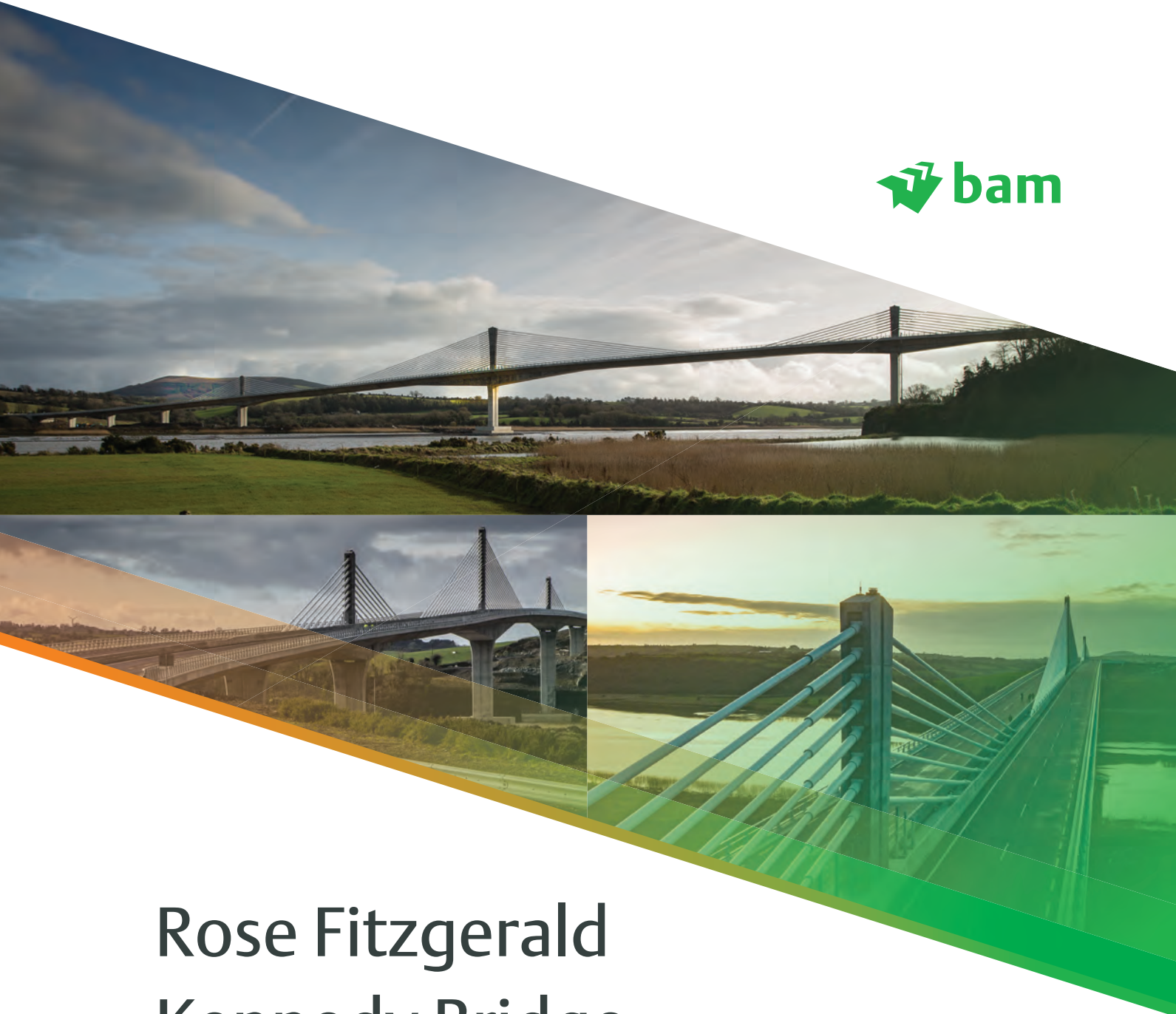
2. We developed very comprehensive and specific procurement documents which not only addressed the engineering requirements, but also layered in a multitude of legislative and stakeholder requirements.
3. At the outset of the project, we developed a detailed Stakeholder Engagement Plan with IW and assigned a Senior resource to the role of Communications and Management of Stakeholders, central to the project success.
4. At project commencement, we held workshops with the Client and agreed and set out clearly in the Contract

what the Employer risk and responsibilities were under the Contract. Throughout the lifetime of the project, we managed the delivery of the Employer responsibilities on behalf of the Employer.

For the construction stage of the contracts, we maintained our management team in place since project commencement, ensuring continuity through the project phases. Maintaining our team ensured that risk management and mitigation remained paramount until construction completion. When required, we employed additional external expertise. To mitigate risk of dam failure at the Vartry WTP site, we employed the services of an All-Reservoir Panel Engineer for the entire project duration to specify the Reservoir Upgrade works, and at Construction stage to review Contractor Method Statements and Risk Assessments and to inspect works during construction.



Vartry Reservoir, Roundwood, Co Wicklow



Rose Fitzgerald Kennedy Bridge

N25 New Ross Bypass PPP



Winner Infrastructure Award
Irish Concrete Society Awards 2021



Winner Outstanding Structure (Bridges) Award
IABSE Awards 2021



Winner Vehicle Bridges Category
Structural Awards 2021



Winner Overall Project of the Year
ACEI Awards 2020

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ACEI ENGINEERING EXCELLENCE AWARDS: INNOVATION - MEDIUM

WINNER: TOBIN CONSULTING ENGINEERS – NUI GALWAY CONNACHT GAA AIR DOME



Celebrating 70 years in business, TOBIN Consulting Engineers is a multi-disciplinary engineering practice operating across four separate divisions including Civil | Design Build | Water, Building and Infrastructure, Environment and Planning and Roads & Transportation.

Employing 135 people at its offices in Galway, Dublin, Castlebar and Limerick, the practice was recently honoured at the 2022 ACEI Awards in the 'Innovation – Medium' category for delivering the world's largest Sports Air Dome for Connacht GAA in Began, Co. Mayo.

Comprising a Double Skin Fabric, the Air Dome is located on the site of the Connacht GAA 'Centre of Excellence' and measures 150m (l) x 100m (w) x 26m (h). This high-specification facility accommodates a full size 4G synthetic GAA pitch, 130m Indoor Running Track,

extensive Gym Facilities which can accommodate up to 30 people at one time, Internal Performance Testing facilities, 2G synthetic surface Concourse areas and spectators seating with a capacity of 5,000 for sports activities and 10,000 for other non-sports activities.

The energy efficient Smart Air Dome features specialist LED lighting, high-tech inflation, air exchange, ventilation and heating adaptations that are controlled by multiple systems which use automated fault detection, as well as monitoring and maintenance technology to control heat, pressure, humidity, and lighting. These automated features create alerts which are sent to the PC and Mobile App of the Operator.

The innovative design of this Air Dome allows for the structure to transform itself from a sporting facility for the local community into a fully functional, adaptable

conference area within 72 hours. Other prospective functions allow the Dome to be used for executive training days, trade exhibitions, and concerts with the capacity to hold up to 10,000 people: making it one of Ireland's largest indoor venues.

The benefits of the Air Dome are endless and most notably create a superlative space allowing for sporting events to take place year-round without interruption due to adverse weather conditions.

With over 200 events cancelled annually due to adverse weather in the area, the Air Dome has provided the local community with a facility to host games and trainings year-round. The double layer inflatable membrane has been engineered to adapt to weather conditions and, when fully inflated, can withstand windspeeds in excess of 100km/h.

Already this facility has many annual events booked until 2026 and hundreds of booking requests. During Covid-19 and its associated restrictions, the Dome allowed for elite sports to continue training, and lent itself to various inter-county teams since its opening and through the pandemic.

Although dome technology is already used worldwide, the magnitude of this development, coupled with the unique requirements of Gaelic Games, posed various hurdles



During construction

that had to be overcome and which ultimately led to the achievement of the Air Dome being the first of its size globally. While dome structures are usually temporarily inflated and deflated for use, the Air Dome in Connacht is designed to remain inflated all year round.

The inflatable structure, comprised of Grade 5 Canvas, is anchored to a concrete perimeter beam around the site, with three platform stations used to inflate the dome and to keep it in place. The air fans that inflate the structure are powered by electricity which are backed



During construction



Air Dome internal

up by diesel generators in the event of a power failure. These generators in turn are backed up with another generator and fan as a precautionary measure. With its highly energy efficient design, keeping the dome inflated requires the use of only one air fan and running costs for the inflation of the dome are approximately €150 per day, with PV panels offsetting energy costs, with surplus power exported to the grid.

The innovative aspects of the design elements of the structure were thoroughly considered throughout the project and the Air Dome boasts high-specification features such as specialist LED lighting which can be set from 100 Lux to 750 Lux, depending on the event, and has the ability to light particular sections of the dome only or to flicker as required.

The LED lights are affixed to the perimeter of the dome and are angled towards the roof which in turn reflects onto the pitch surface, thus eliminating a spotlight effect being created on the pitch area and instead creating an even illumination. Natural light is provided through the clear membrane on the top of the dome which eliminates the need for internal lighting during daylight hours, enhancing the dome's energy efficiency.

The detailed design considered the avoidance of excessive amounts of air loss from the structure and revolving doors were installed as a means of access into the dome. The design also allowed for ingress and egress of pitch maintenance equipment and has a vehicle air lock installed to facilitate such access.

Given the location of the site and the adverse weather conditions the west of Ireland is prone to, the Smart Dome has a weather station which detects strong winds, rainstorms, and snowstorms. The Smart Dome then reacts to such conditions by changing the air pressure internally. The dome is heated using gas blower heaters which can reach temperatures of up to 19 degrees Celsius. In the event of snowfall outside, the outer membrane of the double layered structure collapses, allowing for the internal heat in the structure to melt the snow. Once melted, the second layer automatically inflates again.

Despite some disruption caused by the Covid-19 Pandemic, works to the Connacht GAA Air Dome progressed safely and successfully resulting in the completion of the Air Dome, in accordance with its budget, in October 2020.

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ACEI ENGINEERING EXCELLENCE AWARDS: INNOVATION – LARGE

WINNER: MOTT MACDONALD – CLONAKILTY FLOOD RELIEF SCHEME



Croppy Road River Defences

The coastal tourist town of Clonakilty in West Cork is home to approximately 5,000 people and was voted 'Best Place of the Year 2017' by the Royal Institute of Architects of Ireland. It has a long flood history, with events in 1989, 2009, 2012 and 2014; the 2012 event in particular flooding hundreds of properties and causing millions of euros of damage.

In 2014, the Office of Public Works (OPW) commissioned Mott MacDonald to develop and assist in the implementation of a flood relief scheme for Clonakilty. The works included a flood storage area upstream of the town to protect against fluvial flooding and new reinforced concrete and sheet piled flood defence walls along the riverbank, together with storm sewers, pumping stations, flood embankments and five existing bridge upgrades. The scheme was constructed by Ward and Burke Construction Limited for a cost of €21M.

SERVICES PROVIDED BY MOTT MACDONALD

- Topographical and Geotechnical Survey specification.
- Riverbank and Structural Condition Assessment for all relevant structures in the Study Area.
- Hydrology, Hydraulic Modelling and Flood Hazard Mapping.
- Options development during the SouthWestern CFRAM Study for Clonakilty and options assessment using OPW Multi Criteria Assessment methodologies.
- Economic assessment of options using Multi Coloured Manual and OPW methodologies.
- Public and Stakeholder Consultation to ensure that the works could be completed mitigating any adverse impact on stakeholder, infrastructure and business activities.
- Preparation of Public Exhibition and confirmation documents in accordance with the Arterial Drainage Acts.



Aerial view of Flow Control Structure – looking south
 Photograph courtesy of Ward and Burke Construction Limited

- Foreshore License application to allow the works on the foreshore to proceed.
- Detailed design of flood walls, flood embankments, stormwater pumping stations and flood storage area and structures.
- Preparation of Contract Documents and drawings for procurement of main Contractor
- Contract Administration
- Construction Monitoring
- Project Supervisor Design Process (PSDP)

INNOVATION

The use of a flood storage area containing flood waters in an area of pastureland not previously prone to flooding, thereby protecting more vulnerable areas in the town centre, is unique on this scale in Ireland.

The flood storage structure comprises a 500m long earthen embankment up to 5m high, with a central reinforced concrete flow control structure, controlled by remote water-level monitoring systems. This solution is suited to this particular catchment as the peak flood flow, while very damaging to the town, is only 25 cubic metres per second, a fraction of that experienced in other flood prone areas in Ireland.

The overall design of the scheme is such that the construction of the flow control storage area reduced the requirement for hard engineering interferences downstream. Without this innovation, the fluvial flood defences would have extended over 1.5km of the river and would have required the canalisation of 1km of natural

riverbank with walls up to 4m high being required in the town centre.

The flow control structure is operated automatically to protect the town of Clonakilty from flooding, while limiting the duration of flood water retention in the storage area. A secure online portal allows the scheme operator to monitor it remotely. The output of the various mechanical, electrical, instrumentation, control and automation (MEICA) equipment installed, including level sensors, CCTV, and pump station telemetry are collated on the web portal where dedicated, trained staff monitor the scheme’s operation. Key control elements have UPS provision to keep them online, while four generators have also been provided for safe and continued operation in the event of a power failure.



Aerial view of Flow Control Structure – looking northwest
 Photograph courtesy of Ward and Burke Construction Limited



The system collects information from eight outstations at various points upstream and downstream of the flow control structure. It then compares water levels at the three watercourses which feed into the storage area with water levels downstream, in turn calculating inflow and outflow volumes. Where the outflow volume from the flow control structure reaches the capacity of the river to convey through the town the system automatically lowers a penstock to restrict the flow in the river to what can be accommodated. The system has been operating the scheme since February 2021, successfully preventing flooding in the town on a number of at-risk occasions.

The system automatically sends notifications to the landowners within the flood storage area via text message:

- if it is likely that the penstocks will be closed;
- if a penstock is in process of closing which may result in flooding on their property; and
- when the risk of flooding on their property has passed.

Data from the flow control structure, outstations and pumping stations is transmitted to the web portal and is available on a live basis, as follows:

- Water level data from the flow control structure, outstations and pumping stations;

- Faults from the pumps, penstock actuators & water level gauges;
- Equipment status for the pumps (on/off) and penstock actuators (opened/closed).

The data is stored remotely by the operator and displayed on the web portal in a graphical format, and in turn be viewed, interrogated, and downloaded remotely. Historical data is also available for comparison and analysis. The portal accommodates multiple users, each with separate use profiles. Levels of permissions are “View only”, “Operator” and “Engineer/Manager”.

All alarms are displayed on the web portal alarm viewer, and depending on the significance of the flood event, medium and high priority alarms are notified via SMS to the “Operator” and/or “Engineer/Manager” as appropriate. The pumps can be operated remotely by the operator via the web portal under “Engineer/Manager” permissions in an emergency.

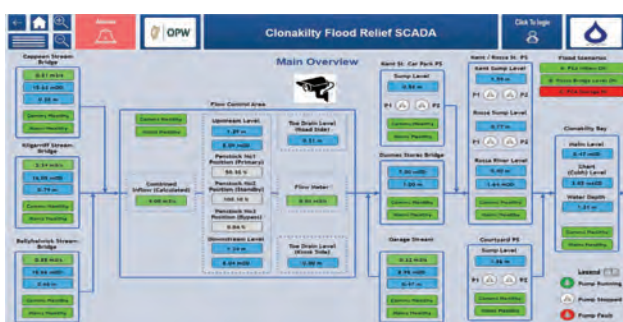
CLIMATE RESILIENCE

The flow control structure is adaptable to future climate change. In the event that climate change gives rise to an increase of peak flows in the river of 20% it is possible to increase the height of the flow control structure to store more flood water. This resilience is key in terms of reducing the requirement for further intrusive works along the scheme itself.

The innovative use of upstream storage is a key indicator of the value of considered engineering design. As well as saving on hard engineering solution in an historic town, it led to a significant reduction in the embedded carbon footprint of Clonakilty.

OUTCOME

The completed scheme now protects 150 vulnerable homes, 142 vulnerable businesses, and 420 vulnerable persons from flooding.

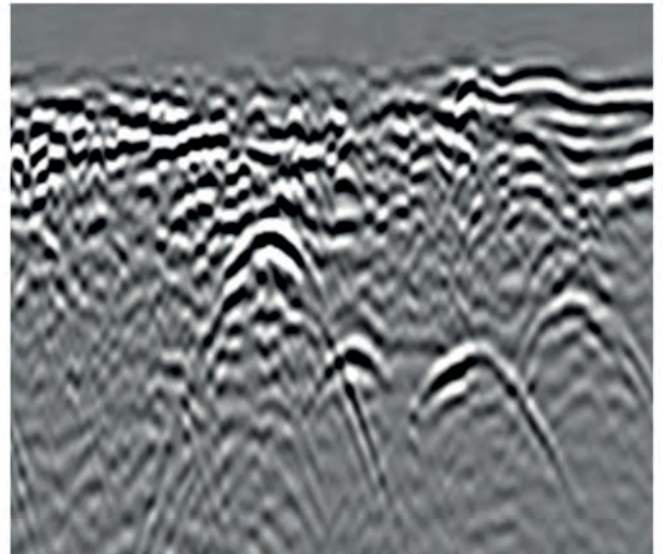


Human Machine Interface (HMI) overview mimic for Flow Control Structure

Photograph courtesy of Ward and Burke Construction Limited

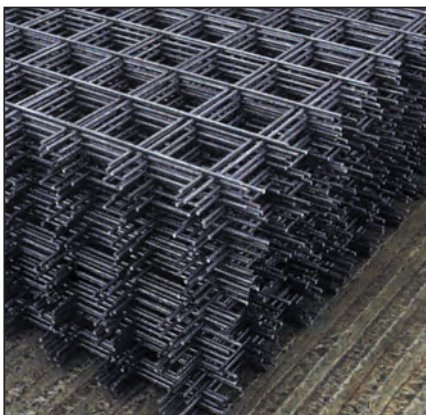
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East/North East	Pat Bermingham	+353 (0)87 2507955
East/South East	Enda Fitzpatrick	+353 (0)86 1414741

ACEI ENGINEERING EXCELLENCE AWARDS: OVERSEAS

WINNERS: NICHOLAS O'DWYER LIMITED – MONROVIA RAW WATER PIPELINE PROJECT



The objective of the project was to install a gravity raw water pipeline to Monrovia, the capital of Liberia. Monrovia is home to about 1 million people, and accounts for about 90% of the population of Liberia. The pipeline was to be installed from the dam at the Mount Coffee Hydro Power Plant (MCHPP) to the White Plains Water Treatment Plant (WTP), circa 5 km away.

During the pre-civil war period, there were two raw water supply sources feeding the WTP: a) A 42-inch (106mm) intake pipe and lift pumps on the St. Paul River where the WTP is located, b) A 36-inch (91mm) ductile iron pipe (DIP) that transmitted water by gravity from the dam at

the MCHPP to the WTP (installed in the 1970s). During the civil wars, the gravity line fell into disrepair and was partially washed away. As a result, the WTP was reliant on pumping for all its raw water, which was of poor quality, particularly in the dry season due to saltwater intrusion at the river intake.

Liberia is one of the poorest and least developed countries in the world. It has suffered debilitating civil wars which have seriously affected the country's growth trajectory. Liberia has a large infrastructure deficit and a shortage of local skills, which makes it a very challenging environment in which to work. Monrovia is the wettest capital city in the world, with annual rainfall averaging over



The pipeline needed to arrive at the White Plains WTP, with a large river crossing just upstream

4.6m, making heavy civil works very challenging. There is a distinct dry season of six months during which most of the works needed to be completed, including the design phase.

MCA-Liberia procured Nicholas O’Dwyer Limited (NOD) as the Supervising Engineer and a Works Contractor to execute a design-build contract following FIDIC Conditions of Contract for Plant and Design-Build 1999 (“Yellow Book”), and MCC’s Environmental Guidelines and the IFC Performance Standards. The Scope of Works comprised all Works (detailed design, manufacture, supply, erection, construction, installation, testing, commissioning, and training) necessary for the Works Contractor to design and construct fixtures, fittings, and equipment for the Works to be fit for conveying water by gravity from the MCHPP reservoir to the WTP.

Replacement of the river intake pumps with gravity flow through the new pipeline aimed at improving supply reliability, reducing the energy use at the WTP (of the order of US\$780,000 per year in electricity costs). In addition, the better quality of the raw water supplied to the WTP (from a large dam, as opposed to a saline river) will result in a more consistent water supply to the Liberia Water and Sewer Corporation (LWSC) service area. The project met several UN Sustainable Development Goals (in particular Good Health and Wellbeing Target 3.9, Clean Water and Sanitation Target 6.1, and Climate Action Goal 13).

The project was already in a challenging location, but once the Covid-19 pandemic struck, all flights were suspended. NOD staff were offered emergency repatriation but decided to stay on and keep working on the project,

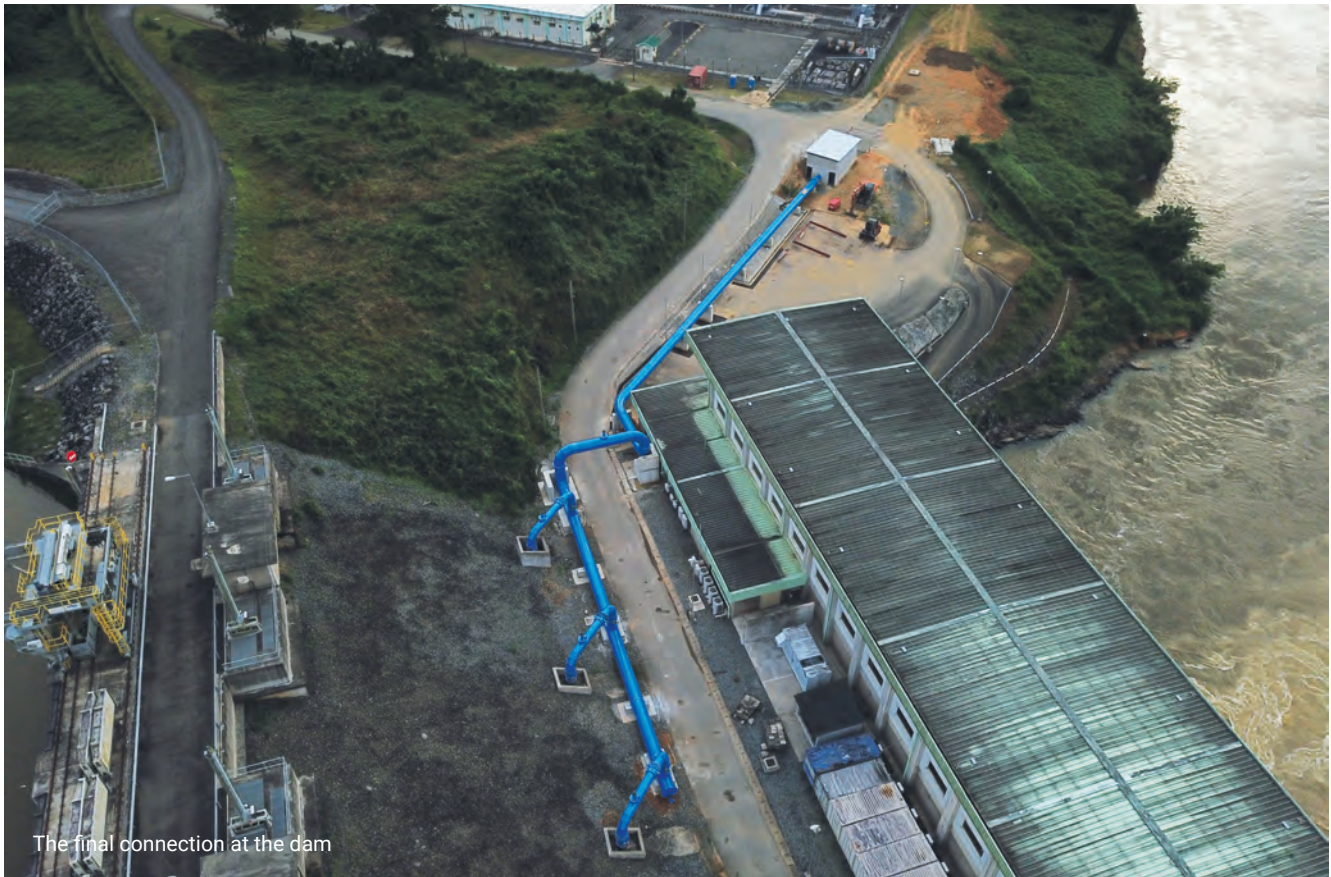
a huge testament to their dedication. NOD was able to successfully complete the project within the required timelines with its site team and the data fed back from them to head office.

Due to the project complexities and tight timelines, significant effort was put into coordination and stakeholder engagement for the design process. NOD’s Dublin design team co-ordinated extensively with the Contractor’s design team and key stakeholders via online design meetings/workshops and initiated a comprehensive document review system, to ensure that quality standards and project timelines for project deliverables were met.

The Client was very pleased with the outcome and remarked “You took the meaning of teamwork to a completely new level. I cannot thank NOD (and local partner TSC Engineering and Construction Limited) enough for the way we pulled off this project during a very difficult period in the history of the world.”

The project included routing of the pipeline to ensure gravity flow and was divided into 2 sections. One section was in a working hydropower plant (88 MW). This section had significant constraints regarding pipeline routing to avoid any of the existing facilities utilities and the ongoing operations.

The other section, outside the power plant, had constraints of the St Paul’s River on one side, and local communities / topography on the other. The St Paul’s River was to be avoided due to risk of erosion on the



The final connection at the dam

pipeline, while at the same time avoiding local outcrops and minimising impact on local communities, either along the river or roadways.

The entire design process was run as a collaborative process between all parties (Contractor, Contractor's Design Team, NOD, Water Utility, Power Plant Operator, Funding Agency) to ensure that the design met the project objectives and there were no unnecessary delays to the design process. In addition, a comprehensive Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) were delivered.

In terms of project complexities, the inlet connection had to be made at the exiting dam with minimal interference to the dam so as not to compromise it in any way. The pipeline at this point was further constrained by the proximity of the powerhouse. The pipeline itself had a burst control valve installed, in the event of catastrophic failure, as well as various large diameter flow control and operational valves.

The project routing ran largely through bush with several water crossings, including a 100m pipe bridge for the final section to the WTP.

NOD implemented various technologies to facilitate monitoring in view of the remote location. These included

handheld tablets for site staff site inspections. This data was automatically uploaded so that head office had full visibility, including geolocated photos, videos, and associated site notes. Drone flyovers of the entire site were conducted regularly to monitor progress over time. These provided a photographic record of all plant and equipment on the site, which spanned over 5km. With a single image, the entire site could be displayed. This was a very useful discussion tool for remote stakeholders and the funding agency in the USA.



Drone photography was used on a regular basis to monitor progress

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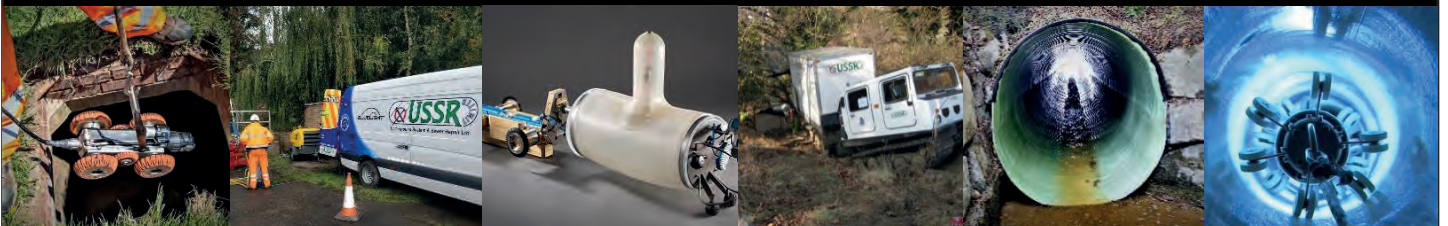
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ACEI AWARDS DINNER 2022

ACEI President 2021-2022 David McHugh hosted the annual Awards Dinner on 2nd September 2022 in the Shelbourne Hotel



David McHugh, ACEI and Michelle McHugh with Emma Lynch and Peter Lynch, Chief Executive, FuturEnergy Ireland



Awards adjudicators, Eamon O'Brien, ACEI President 2000 and Tony Horan, ACEI President 2017



Claire Ault, Griffiths & Armour; David McHugh, ACEI and Graeme Tinney, Griffiths & Armour, ACEI sponsors



Alan Hore, Chair, CitA; David McHugh, ACEI; Pat Lucey, Chairman, Build Digital Project and Willo Roe



Tom Parlon, Director General, CIF; Sarah Ingle, ACEI Secretary General and David O'Brien, Chair GCCC, OGP



David McHugh, ACEI President 2021-2022; Brian Kavanagh, ACEI President 2022-2023 and James Kavanagh, ACEI Vice-President



Kathryn Meghen, CEO, RIAI; Pat Lucey, Chairman, Build Digital Project and Shirley Coulter, CEO, SCSi



Siobhán Moneley, BIM Director, T.J. O'Connor & Associates and Michael Mannion, Contracts Manager, Ward & Burke Construction Limited



Sarah Ingle, ACEI Secretary General with Kieran Walsh, OPW



Kevin James, President, SCSi and Ultan McCloskey, Director of Infrastructure, daa



Tom Leahy, President of the Irish Academy of Engineering; Peter Lynch, Chief Executive, FuturEnergy Ireland and Damien Owens, Director General, Engineers Ireland



Tara Flynn, MBCA President; James Kavanagh, CEO, Varming Consulting Engineers and Tara Cosgrove, Partner, Beale & Company



Stephen Marc Jones, CEO, ACE UK and Maeve McHale; David McHugh and Michelle McHugh



Emma Lynch; Una Beagon, Chair, Institution of Structural Engineers – Republic of Ireland Regional Group and Michelle McHugh



Michael Curran, Chairman, CIBSE with Eamon McGrattan, President, MEBSCA

ACEI / ISTRUCTE GRADUATE DEVELOPMENT COURSE

ACEI ASSOCIATION OF
CONSULTING ENGINEERS
OF IRELAND

The Institution of
StructuralEngineers



Room view of delegates

The ACEI / IStructE Graduate Development Course reviewed and redeveloped by the ACEI CPD Sub-Committee, IStructE and the ACEI Executive was held in line with developments within the industry in May – June 2022. This ACEI / IStructE 6 day CPD course is aimed at Graduate Engineers working in a Consulting Engineering firm, with a minimum of one year's work experience, to provide them with a structured, bespoke training programme to enhance their development and progression after graduation towards Chartered Engineer status. A total of 77 delegates attended.

The course was divided as follows:

Session One topics intended to improve the graduate consulting engineer's understanding of organisational, management, culture, project and technical issues that arise in the performance of their day to day duties.

Session Two focused specifically on the practical aspects of design codes and construction methods, together with some relevant case studies. In this Session, the participants were separated into either a Civil/Structural or Mechanical/Electrical group.



Sarah Ingle, ACEI Secretary General; Brian Kavanagh, ACEI President and Chairman of Garland with Una Beagon, Chair - IStructE – Republic of Ireland Regional Group



David McHugh, RPS, ACEI, Past-President



Marie-Claire Daly, Technical Director, PUNCH Consulting Engineers



Paul Sexton, IStructE and John O'Connor, Associate Director, Arup



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These courses are run on Friday evenings and Saturday mornings during the two semesters.

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BIM COORDINATORS SUMMIT 2022



ACEI was pleased to sponsor the 2022 BIM Coordinators Summit and participate in the event at the RDS Dublin, Ireland and online on 8 September 2022.

The Summit was a great opportunity to meet and share knowledge with those who seek to benefit from improved BIM adoption. It was also a celebration of excellence and digital innovation in architecture, engineering, and construction.

ACEI BIM Committee Convenor Aonghus O’Keeffe, a Director at Roughan & O’Donovan Consulting Engineers, presented on “Let’s not forget the data”. Aonghus spoke about the gap between international BIM standards and implementation in practice, and how the national rules

needed to close that gap are missing in Ireland. He gave examples of how that gap has been closed in other European countries, which have been beneficial in a number of ways.

Aonghus said that while there has been much focus on BIM processes in recent years, Irish public clients are not adequately benefitting from the value of standardised, validated data gathered throughout an asset’s life. He closed with a question asking who will provide the leadership necessary to close the gap in Ireland by giving specific direction to clients and industry.

Procuring, collating, maintaining and interpreting data takes time and money

INTERNATIONAL STANDARDS = COMMON RULES

- Data models
- Data formats
- Data sharing
- Data exchange
- Data validation
- Object classification

International standards

GAP

Industry need

CLOSING THE GAP

Norway – e.g., V440, SOSI, NS 3420	Netherlands – CB-NL, NEN 2660, PWS-OTL	Finland – House, Infra and City models
UK – COBie and UniClass 2015	Sweden – CoClass	Belgium-Flanders – OSLO programme

IS THE GAP BEING CLOSED IN IRELAND?

- Not part of current NSAI remit
- Outside the scope of the Build Digital project
- OGP aiming to publish requirements
- Are major public asset owners waiting?

WHAT DO WE NEED?

- Consistency across clients
- Published asset information requirements
- Use case based = valuable
- Machine readability = scalable
- Semantic modelling and linking
- EN 17632-1 is imminent and proven
- Let's benefit from others' work

EFCA CELEBRATES 30 YEARS AND BIDS FAREWELL TO JAN VAN DER PUTTEN

The European Federation of Engineering Consultancy Associations (EFCA) celebrated its 30th Anniversary at a gala event in Brussels on 16 November 2022. This was attended by ACEI President, Brian Kavanagh and Secretary General, Sarah Ingle. Another special guest was Kevin Rudden, past-president of ACEI 2015-2016 and EFCA past-president 2017-2020



Jan Bosschem, EFCA President, 2011-2014, ORI, Belgium; Flemming Pedersen, EFCA President, 2014-2017, FRI, Denmark; Martin Güldner, EFCA President, 2002-2005, VBI, Germany; Kevin Rudden, EFCA President, 2017-2020, ACEI, Ireland; Benoît Clocheret, EFCA President, 2020-2023, CINOV/SYNTEC-Ingénierie, France; Inés Ferguson, EFCA President-elect, Techniberia, Spain; Sirpa Pietikäinen, MEP; Katharina Knapton-Vierlich, Head of the European Commission Construction Policy unit at DG Grow

Keynote speakers on the night included Sirpa Pietikäinen, MEP, a member of the European People's Party (EPP) in the European Parliament and a former Minister of the Environment in Finland. The second keynote was delivered by Katharina Knapton-Vierlich, Head of the European Commission Construction Policy unit at DG Grow.

The mission of this unit is to support the construction ecosystem in the transition to a resilient, sustainable, and digital future that will strengthen its competitiveness.

Sincere tributes were also paid to recently retired EFCA Secretary General Jan Van der Putten, who was 30 years in the role. Jan was thanked for his many contributions to EFCA and presented with gifts of appreciation from all in EFCA by President Benoît Clocheret.

On its 30th Anniversary, EFCA marked its contribution to the EU transition towards a resilient, green, and digital built environment by launching a new manifesto:



Kevin Rudden and Jan Van der Putten

Delivering a Resilient, Green and Digital Built Environment: Manifesto from European Engineering Consultancies for 2030 and beyond. In line with European Green Deal objectives, it sets out the scenarios for a transition pathway for a resilient, greener, and more digital construction ecosystem.

As well as the climate emergency the manifesto addresses twin green and digital transitions, sustainable development, public procurement, and standardisation. It also highlights their need for more young people to choose engineering as the profession of choice and it looks ahead to future trends and the growing adoption of new technologies.

EFCA has member associations in 28 countries and is the sole European federation representing the business interests of professional engineering consultancy and related services. The sector employs around one million staff in Europe.



Sue Arundale, Director General, EFCA; Brian Kavanagh, ACEI President and Sarah Ingle, Secretary General ACEI



Benoît Clocheret, EFCA President



Retired EFCA Secretary General Jan Van der Putten



Brian Kavanagh, ACEI President with Nelson Ogunshakin, CEO, FIDIC



SELECTING A CONSULTING ENGINEER



St Mary's Hospital, Mullingar

Selecting a consultant is one of the most important decisions an owner or client makes. The success of any project often depends upon obtaining the most able, experienced and reputable expertise available.

The best project results are achieved when there is a true professional relationship of absolute trust between the client and the consultant. This is because the consultant must make sound, objective decisions and act in the best interest of their client at all times. The method of selection should therefore seek to develop mutual confidence between the two parties.

There are two key points to consider when deciding what method of selection to employ:

Since precise professional performance specifications cannot be written, it is difficult, if not impossible, to equitably apply the principles of competitive bidding. That is to say, if the competition is based on price, different consultants may anticipate providing very different levels of service. Although it is possible to write a performance specification for the physical aspects of the project itself, it is very difficult to write suitable

specifications for how a consultant should perform. This difficulty arises because factors such as the extent of investigations, the consideration of alternatives or the quality of design and levels of innovation cannot be quantified. Each factor not only depends on the mechanics and procedures employed in executing professional work, but also upon the expertise, experience, judgement, innovation and imagination of the consultant and the supporting staff working on the project.

Successful consulting services depend on sufficient time spent by properly qualified people. Thus the method of selection should not force fees down to the point where consultants cannot afford to assign properly experienced staff for sufficient periods of time.

Inadequate fees lead to the reduction of the scope and quality of the service by spending less time on the project or assigning lower paid and usually less qualified personnel to the project. Thus lower consulting fees give no assurance of lower total project costs. Inadequate engineering often leads to higher construction costs, higher material costs and greater life cycle costs. All of which are likely to cost far more than the potential saving made on design fees.

THE IMPORTANCE OF QUALITY-BASED SELECTION (QBS) FOR THE PROCUREMENT OF CONSULTING SERVICES

Selection based on quality

The method of selection that best meets all factors is quality-based selection. That is, the client chooses the consultant on the basis of professional competence, managerial ability, availability of resources, professional independence, fairness of fee structure, professional integrity and quality assurance systems.

The recommended procedure for selection of consulting firms is to:

- identify potential firms with relevant experience
- select the most appropriate firm
- negotiate the fee on a mutually agreed scope of services with the selected firm
- execute appropriate agreement terms.

ADVANTAGES OF QUALITY - BASED SELECTION (QBS)

QBS Delivers the best value for money

Selecting a consultant based on quality ultimately provides the best value for the client. Experience has demonstrated that the competency of the consultant is the key to an efficient, cost-effective project. Top-quality consultants bring best practices to the project. This translates into the best possible solutions for the client and the end user; which means the appropriate technology, innovative solutions and the lowest life cycle cost. The QBS process encourages consultants to continually improve their skills and strive for creativity and innovation because their selection depends on it. The client is the beneficiary of these best consultant practices at competitive fees. QBS leads to:

Fairer Fees

Fees will be fairer to both the client and the consultant because they are negotiated after the parameters of the assignment are fully established. Consultants will not be under pressure to minimise their efforts by devoting less time to project details, by considering fewer alternatives, or reducing the amount of checking. This means the project will be safer, more efficient, cheaper to build and more economical to operate over its life cycle.

It has been suggested that the client is at a disadvantage when negotiating fees after the consultant is selected. This is not the case, since there is a wide spectrum of documentation on fee guidelines available to the client. In addition, the client can seek appropriate advice from other consultants and professional organisations.

SELECTION CRITERIA

The most important standards by which to judge a consultant's suitability to carry out a particular project are:

- professional competence
- managerial ability
- availability of resources
- impartiality
- fairness of fee structure
- professional integrity
- quality assurance system

The client should seek information on all these matters by:

- obtaining comprehensive written pre-qualification information from the consultant in a form appropriate for the assignment;
- interviewing senior personnel identified for the assignment;
- if necessary, visiting the premises of the consultants and examining systems and methods of work as well as hardware and software capabilities;
- where applicable, speaking to previous clients.



Professional Competence

The competent professional consultant will be able to offer the client a team that will have the education, training, practical experience and judgement to carry out the project.

The client can evaluate the professional competence of the team by examining;

- the detailed resumes of key staff members and their relevant experience on similar assignments;
- the list of similar projects carried out by the firm and present staff;
- the approach to and methodology for the proposed assignment.

In addition, the client should validate the performance of the consultant on similar previous assignments with owners and examine the performance history of the consultant in similar foreign countries.

Managerial Ability

To successfully achieve project objectives, a consultant must have managerial skills to match the size and type of the project. The consultant will need to marshal skilled manpower and adequate resources, maintain schedules and ensure that the work is planned in the most efficient manner. The consultant will need to be able to deal competently with contractors, suppliers, loan agencies, government agencies and the public during the course of the project. At the same time, the client must be informed of the development of the project to be able to make decisions quickly and accurately.

The client can assess the managerial ability of the consultant team by examining;

- past projects performance record;
- the documentation and project control procedures which guide the performance of the consultant's services;
- the success record of the proposed project manager on previous projects;
- the project management and quality control

- approach proposed for the new assignment;
- the progress reporting and client communication techniques proposed for the assignment;
- the success rate on previous projects of the consultant in transferring technology.

Availability of Resources

When selecting a consultant it is important to establish whether the firm has sufficient financial and manpower resources to carry out the project to the necessary detail and standards commensurate with the time and fee schedule. This will indicate the extent to which the firm's current resources are committed. The client should verify that the consultant has sufficient staff available at the relevant experience levels and that there are sufficient financial resources to carry out the work.

The client can validate the adequacy of the consultant's resources by reviewing:

- the number of qualified professional and managerial personnel committed to the project team;
- the deployment of the project staff and how the team will be organised with lines of responsibility;
- the staff commitments to other work for the duration of the proposed project;
- the new assignments to projects of a similar size conducted by the consultant;
- the credit worthiness of the firm;
- the ready access to supporting resources;
- the proximity of the firm's offices to the proposed work.

Impartiality

When the client employs a consultant who is a member of one of FIDIC's member associations, such as ACEI, the client has the assurance that the consultant subscribes to FIDIC's Code of Ethics, is competent, and provides impartial professional advice.

The consultant is remunerated solely by the fees paid by the clients. The consultant has no commercial ties that could prejudice their impartial judgement.

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“THE GOALS OF DESIGNER SELECTION SHOULD NOT INCLUDE MINIMISING FEES. MAKING FEES PART OF THE SELECTION PROCESS WILL NOT SAVE TAXPAYERS MONEY. RATHER, THE PRACTICE IS LIKELY TO INCREASE THE ULTIMATE COSTS OF THE PUBLIC BUILDING SYSTEM DUE TO REDUCTION IN DESIGN QUALITY...”

WARD COMMISSION

If the consultant is a member of a consortium, they may be remunerated from the proceeds of the consortium. In this case, the consultant must consider the consortium partners to be clients.

The consultant is therefore able to approach all assignments objectively and by exercising sound professional judgement and prudent economic principles, can provide solutions to serve the clients best interests.

The client may wish the consultant to furnish an affidavit confirming that no potential conflict of interest in the performance of the proposed assignment exists.

Fairness of fee structure

Consultants need to be adequately compensated

to ensure that they are able to provide high-quality services with proper attention to detail, alternative considerations, innovation and cost effective solutions.

Consultants must maintain highly competent staff through continuous education and training initiatives and give constant attention to research and development to maintain state-of-the-art expertise and up-to-date equipment and technology.

The fee structure should be adequate to achieve the objectives of the project and meet the expectations of the client. At the same time, the fee must generate a reasonable profit for the consultant so they can remain in business ready to serve the client with well trained, experienced staff and the latest in innovative approaches.



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MASSACHUSETTS TAXPAYERS FOUNDATION

Professional Integrity

Mutual trust and integrity represent the oil in the machinery of the relationship between client and consultant. Without it the machine becomes inefficient, hot through friction and finally can come to a standstill. If absolute trust exists between the client and the consultant and both parties have integrity, then the project will run more smoothly, the results will be better and both parties will be happier. These very factors of mutual trust and integrity are the reasons why consultants are commissioned by the same client again and again.

SELECTION PROCEDURE

In the scarce financial resources environment of today, the quest must be for the best possible solutions for the client and the end user. This requires the use of appropriate technology, innovative solutions, the lowest life cycle cost, all executed with prudent resource utilisation, environmental sensitivity and sustainability. The end user deserves the best the consulting profession can deliver and that quality comes from top qualified firms at a competitive price. A selection procedure that allows the consultant to use creativity, innovativeness, experience, seasoned judgement and best practices in the best interest of the client in return for fair and adequate compensation, gives the best results.

Competition between consultants that results in the best quality of services, is of benefit to the client and the public and in keeping with the philosophy of private enterprise. This competition, however, should be based on competence and qualifications. In an environment where investment money and loan funds are in short supply, it is in the interest of all concerned to focus on quality and value.

TERMS OF REFERENCE

Draft the terms of reference for the selection which should include an assessment of the physical magnitude and resource requirements of the project. The required services can be identified under the following headings:

- areas of expertise and categories of service
- a statement of work defining the project
- a time schedule
- regional factors such as geographic location, language, logistics, allowances, duration of commission
- type of contract proposed
- a project budget

PRE-QUALIFICATION

Make a list of consulting firms which appear to be qualified for the project. This is often referred to as the pre-qualification list.

“THE CONGRESS HEREBY DECLARES IT TO BE THE POLICY OF THE FEDERAL GOVERNMENT TO PUBLICLY ANNOUNCE THAT THE CONTRACTS FOR THESE SERVICES (DESIGN SERVICES) WOULD BE NEGOTIATED ON THE BASIS OF DEMONSTRATED COMPETENCE AND QUALIFICATIONS... AT A FAIR AND REASONABLE PRICE”

BROOK'S LAW

Names of possible consultants can be obtained from a number of sources including:

- ACEI Directory of Members
- persons or organisations that have employed consultants for similar projects by advertisement in the National Press for an “Expression of Interest” providing information on the firm relevant to the project.

SHORTLIST

Draw up a shortlist of not more than three to five consulting firms which appear to be best qualified for the project, bearing in mind the following factors:

- relevant experience
- availability
- capacity to complete the work
- access to support resources
- past performance on client contracts

- location of the firm’s office in relation to the work
- political, social and environment or sensitivity
- security level required

REQUEST FOR PROPOSALS

The client may at this stage invite the most suitable consultant to negotiate an agreement on a mutually agreed upon project scope, fee and contract terms. More formally it can write a letter to each of the firms on the shortlist and invite proposals.

A request for proposals should contain at least the following:

- the statement of work, terms of reference and supporting documentation
- submission or closing date
- basis of evaluation
- a statement of information to be included

“WHILE IT IS APPROPRIATE TO AVOID DESIGN FIRMS WITH EXCESSIVE OVERHEAD RATES, A COMPETITION BASED ON COST INEVITABLY LEADS DESIGN FIRMS TO BASE THEIR BIDS ON THE MINIMUM POSSIBLE NUMBER OF HOURS, WITH A SUBSTANTIAL RISK THAT INADEQUATE DESIGN WILL BOOST OVERALL CONSTRUCTION COSTS.”

MASSACHUSETTS TAXPAYERS FOUNDATION



Alat Free Economic Zone, Azerbaijan

“THE COMMON LAW OF BUSINESS PROHIBITS PAYING A LITTLE AND GETTING A LOT”

JOHN RUSKIN FROM 1860

- in the proposal
- expected selection date

Where appropriate, the request for proposal should also include the following elements which may have influence on the cost of consulting services:

- methodology
- alternatives to be considered; innovation invited
- transfer of knowledge/technology, local participation and training
- detailed target cost estimates for the project
- compliance with desired time schedule

The information required will include:

- past experience with projects of a similar nature
- details of organisation, project control, financial control
- size and responsibilities of staff
- type of organisation and managerial method proposed for executing the work
- quality assurance organisation
- knowledge of local condition
- local resources
- project methodology
- availability of resources
- approach and commitment to technology transfer, if appropriate

To assist the consultant in preparing a proper response to the proposal, the client should encourage the consultant to evaluate the scope of work by visiting the site and by meeting with the client.

ASSESSMENT OF PROPOSALS

Once the proposals are received, the client should systematically evaluate and rank each proposal against the basis for selection outlined in the request for proposal. This process helps to maintain the integrity of the selection process and can involve:

- formation of a selection committee
- a weighting or score for each criteria
- independent evaluation of firms by each member of the selection committee
- individual score sheets being collated and

- a documented record of the selection process being retained

Clients may be assisted in this evaluation process by an independent consultant.

If the project size and complexity warrants it, the client can include in the evaluation interviews of key consultant team members, visits to consultant's premises, discussions with consultant's past clients and project end users and inspections of past projects.

COST EFFECTIVENESS

The correct selection of a top-qualified consultant has major impact on the overall project costs. The decisions made by the consultant in the first five percent of their involvement with a project, have the highest leverage on the life cycle cost of the project. Compared with project life cycle costs, the consultant's fees range between one and two percent. Since life cycle cost impacts between excellent and marginal design can easily exceed the consultant's total fee, it makes no sense to select the consultant on the basis of lowest fee. In an environment where investment money and loan funds are in short supply, it is in the client's best interest to focus on quality and deliver value.

Quality-based selection does not involve consultants preparing costly priced proposals which have the effect of escalating the overall cost of consulting services.

FORMS OF AGREEMENT

When drawing up the contract for consulting engineering services both the client and the consultant should protect their interests, by using the model Conditions of Engagement documents produced by FIDIC or the Institution of Engineers of Ireland.

These standard documents are highly recommended as important instruments for reaching a fair and sound agreement between the client and the consultant.

One or two percent more spent on design costs can save up to ten or fifteen percent of the project.

ACEI ASSOCIATION OF
CONSULTING ENGINEERS
OF IRELAND

POSITION PAPERS

2023

NEW COMMUNICATIONS REQUIREMENTS: ADDING VALUE OR OVER-SPECIFICATION?

By Susan Cormican, Ethos Engineering



Visit any electrical installation and witness kilometres of ICT cabling leading from numerous communications rooms. Walk into these rooms and encounter rows of cabinets, guzzling huge amounts of power for cooling.

The impact on cabling and equipment cost is significant, as is the reduction of usable space in the building. But is this level of infrastructure appropriate in all cases?

While Internet Protocol (IP) addresses were once exclusive to personal computers (PCs), network devices and then mobile phones, the advent of smart buildings means IP convergence is now being rolled out to most systems. The Internet of Things (IoT) looks for full convergence to bring information and controllability to hand-held devices. While this appears to be a consistent trend, is it necessary for every building?

Consideration of the scenarios below provides some insight into the variables involved:

1. Simple Control Strategy – One off Restaurant Facility

Here, end-user functionality and set operating hours drove a solution for simplicity; with ventilation controlled from central panels in the kitchen and dining areas and lighting, audio-visual (AV) and cooling controlled from reception. Each system comes with its own control package and there is no requirement for convergence.

This case reflects the traditional scope of the M&E consultant; a passive communications distribution systems and M&E control performance specification.

2. Standard BEMS – Typical Commercial Office Fit-Out

A typical commercial office fit out, where IT to desks, landlord and tenant plant are pre-defined. M&E systems

are linked to a Building Energy Management System (BEMS) front end PC for monitoring, control, diagnostics and energy optimisation.

No system convergence is required in this case and the scope of the M&E consultant is limited to the passive ICT distribution and BEMS package only.

3. Standard BMS with Cloud Convergence

An office fit out where hi-tech clients typically wish to migrate systems data onto their own corporate networks from which to monitor / control several sites. Security concerns necessitate testing and approvals of control equipment and migration processes which the consultant is asked to review.

Here, the consultant is required to clarify the interface between the client ICT team and the M&E engineering scope. Often this issue can arise, post appointment, in parallel to delivering a design package.

4. Full Convergence

The example here is a new build hospital with high demand for diagnostics, maintenance planning, monitoring of systems and energy optimisation. The facility also requires assistive technology for patients (automatic control of environment through handheld devices), asset management, fire egress and access control.

These systems require full convergence onto the building Local Area Network (LAN). Is it appropriate for the consultant to input to passive systems only in this case? There is limited time for the debate on scope to take place during construction.

The advantage to the client and end users of convergence is clear; end users gain better facilities including improved comfort, AV, data connectivity and smart buildings access; while facilities teams gain integrated system monitoring for energy prediction / optimisation and system diagnostics.

However, the process to deliver convergence is not seamless, as evidenced by some of the examples above. Client briefs, particularly in the public sector, do not clearly delineate the scope required from the consultant and the pre-appointment clarification process rarely provides any further clarity. In a competitive environment, the consultant will price its traditional understanding of scope, leading to blurred lines throughout the design stage of the project.

A further impact is on space planning. For convergence of the different systems, all devices must be connected back to the building communications rooms.

Space must be allocated within the communication cabinets or racks located in the building communication rooms for the additional LAN switches that will be required. It is no longer acceptable to have the BEMS control panel situated in the plant room and the network switch located in a riser shaft located elsewhere.

The connection from end device to communications room will be by copper cable, fibre cable or WiFi, or a combination of the different connectivity systems. Appropriate space for the termination of these cables onto patch panels within the communication cabinets will also be required. If WiFi is providing the connectivity, then additional WiFi Access Points (WAP) may be needed as well. These potential solutions must be thought about early in the design process and included in the final design.

Ultimately, key to optimising clients' needs is an understanding of end user requirements at an early stage to develop the most appropriate system. In that context consultants will have to provide advice on active equipment, building LAN and convergence. This might require further investment in consultants' fees, the calculation of which needs to be consistent between consultants as well as affordable for clients.

Is it time for M&E consultants to step up and develop an affordable specialist service that our clients need, or let others fill the increasing scope gap?



Cables

RESILIENT INFRASTRUCTURE – IMPROVING LIVES

By Tony Horan, O'Connor Sutton Cronin

The threats and challenges caused by political turmoil, climate change, population growth, ever-increasing urbanization and inadequate investment are now requiring engineers to consider resilience and adaptive strategies in order to address infrastructure needs. So what is resilience?

Resilience is *'the ability to withstand or recover quickly or to recoil or spring back into shape after bending, stretching or being compressed.'* A simpler way to put it, is that resilience is the ability of our infrastructure to keep functioning during and after major disruptive events or overloads. People are inimitably resilient, but not so their environmental infrastructure. When this is inadequate and inappropriate, it impacts severely on people's quality of life.

Urban societies depend heavily on the proper functioning of infrastructure systems, many of which are invisible or taken for granted. However, this reliance becomes painfully evident when infrastructure systems fail during disasters. Moreover, because of the network properties of infrastructure, damage in one location has the potential to disrupt service in extensive geographic areas. The societal disruptions caused by such failures can therefore be disproportionately high in relation to the actual physical damage. Numerous recent natural disasters have unfortunately demonstrated this phenomenon. In an Irish context we only have to look at the number and location of homes left without water and electricity in the wake of severe storms, as well as the associated transport outages wrought by the same events.

Designing resilient infrastructure systems will require collaborative efforts by engineers, working in multidisciplinary teams with other professionals, using increasingly sophisticated tools to properly advise their clients, many of whom are overwhelmed by the complexity of the infrastructure challenges they face. In addition, and as quoted at a FIDIC Conference, *'taxpayers' expectations for a more sustainable future rely on the ingenuity of engineers. The future is in our hands. It is time consulting engineers came out of the shadows and it is time public authorities were open to earlier advice and support.'* So, other than coming out of the shadows and leading the societal debate, what does the consulting engineer need to do?

The question can best be answered by first asking what it is we are trying to be resilient against and how exactly we are to design for that resilience? Well, on the 'what' side and on a global scale, the list includes floods, earthquakes, hurricanes, tsunamis, landslips, and

terrorist/cyber-attacks. It also includes a list of climate change related disruptors such as increased rainfall, rising temperature, increasing wind speeds and sea level rise. In terms of the 'how' side we need to meet the following characteristics of resilient design:

- **Adaptiveness:** resilience will be based on an ability to respond to uncertainty and change and to 'fail safe' in critical events;
- **Robustness:** this is the strength within systems to allow them to continue functioning during a disruption.
- **Diversity:** geographic diversity means distributing assets such that a single geographic event such as a flood, cannot affect all assets.
- **Redundancy:** means having adequate back-up capabilities when systems fail and having alternative routes and systems in the event of elemental failure.

The degree to which we require resilience is a function of the end user requirement. The consulting engineer needs to consider what resiliency means for each part of the system's critical path. This may be milliseconds for some scenarios and weeks for others. To use a medical example, Intensive Care Units (ICU) will have a zero lag tolerance whereas hospitals may be able to function with external kitchens for some time. As a transport example think traffic route lighting versus runway lighting.

In many ways the new call to resilience is only asking consulting engineers to formalise an approach which many of them have been taking all of their professional careers. The simple act of putting dual road gullies either side of the carriageway, with separate connections to the storm carrier drain, at the base of all sag curves comes to mind as one such example of resilient design. However it is likely there is now a need to up the game to a more formal approach to resilience in design. This will include making an assessment of possible solutions with a recognised matrix to rate uncertainty, resilience and adaptability. It will also require Engineers to educate stakeholders on risk. The use of 'no regret' measures is to be recommended i.e. providing a solid foundation for change, as is maintenance of the ability to adapt with the environment. There will be a concomitant requirement to consider changing contract types so as to reward resilience in design.

Finally, the consulting engineer needs to remain engaged for the long term with ongoing monitoring, review and action in order to continue leading the societal debate.

ARE ADEQUATE RESOURCES CHECKED COMPETENTLY?

By Kevin Rudden, Garland

The checking of competence is commonplace within the construction industry and has been normal practice now for some time, as it should be. Before clients appoint duty holders such as designers, contractors, or project supervisors for design or construction, they regularly check training, experience and knowledge appropriate to the nature of the work to be undertaken to ensure competence.

The words *competent* and *adequate resources* appear in the same sentence within the Safety, Health and Welfare at Work (Construction) Regulations 2013. The Construction Regulations do not prioritise competence over resources or vice versa. There is no point in having a competent person available without sufficient resources and, similarly, no point having unlimited resources without competent persons to apply them.

How often are clients asking whether a duty holder has adequate resources? Are they checking it as often as competence? Do they ask the question if a duty holder has adequate resources appropriate to the nature of the work to be undertaken having regard to the task required to be performed and taking account of the size or hazards? Unfortunately adequate resources are not being checked to the same level and standard as competence within the Industry today.

There is some guidance that can be used for assessing competence such as the Health and Safety Authority's, (HSA) questionnaires BCP 1 and BCP 2. Tools and guidance to assist in checking adequate resources may not be as abundant but nonetheless are available. For example, the Construction Safety Partnership's Project Supervisor Design Process (PSDP) Case Study gives a client a step by step guide as to the actions a PSDP undertook on a sample project (<http://csponline.ie/publications/>). This case study could educate the client to ask questions in order to determine the level of resources being committed to a project by a PSDP, including for example the number of design team and site meetings to be attended.

Similarly, clients can ask at Project Supervisor Construction Stage (PSCS) how often site audits are planned, and site inductions are undertaken. The answers should be compared against the actions as suggested by recognised bodies such as the HSA and CIF in published documents such as the HSA's Guidelines to the Construction Regulations and HSA's Clients in Construction - Best Practice Guidance.

Where the project is carried out in furtherance of the clients business (i.e. non-domestic projects), the duty of assessing both competence and adequate resources of duty holders falls on the client, who is usually one of the least informed members of a project team. However ignorance is no defence in law. A client has a statutory obligation to only appoint those who are competent and have adequate resources. A failure to do so can lead to criminal conviction. Asking the duty holders to confirm they are competent and have adequate resources does not relieve the client of their statutory obligations. Where the work is carried in a domestic home, the duty holders are obliged to confirm to the client that are competent and have adequate resources. In this case the client has few obligations.

If a client for a project in furtherance of their business does not provide a fair and reasonable fee to a contractor or designer, how can they argue that adequate resources were available for the successful completion of the project? Likewise a contractor or designer who does not ensure the fee they proposed for a domestic project provides adequate resources is equally guilty of a breach of a statutory provision.

In the event of an accident on a construction site, the HSA is obliged to investigate all the relevant contributory circumstances in every case. This could, and should, include an assessment as to whether competent duty holders with adequate resources were appointed. There is no doubt that it is only a matter of time before we see convictions for these breaches of a statutory obligation. Many public sector clients mistakenly believe that they are obliged to appoint the lowest tenderer in any procurement competition. However, they are actually obliged to appoint the most economically advantageous tender. They have been provided with a suite of procurement documents by the Government Contracts Committee. These documents allow the selection of an appropriate quality price-ratio depending on the complexity of the project. An appropriately selected quality price-ratio, correctly applied takes the emphasis away from the lowest cost and is far more likely to end up with the appointment of adequately resourced duty holders. Any individual public servant who fails to follow the Government Contracts Committee Procurement Procedures leaves themselves personally liable for a breach of statutory obligation and consequently open to a potential criminal conviction.

DIGITAL TRANSFORMATION IN THE CONSTRUCTION INDUSTRY

By Gerry Carty and Mark Costello, RPS

The construction industry operates in an extremely competitive marketplace, having to continuously innovate and become more efficient. Over recent years, the use of digital technologies (BIM, Data analytics, GIS, LIDAR, etc.) in design, construction and operational phases of projects has increased.

The construction industry has many challenges. Foremost among these is the need to evolve from traditional 2D, separated disciplinary inputs, separate contractors/subcontractors and separate operators to a more holistic integrated delivery model. Society and governments are increasingly focused on getting value for money, improved efficiency and lower life cycle costs. Current practices often result in uncertainty around what is needed and changes are often made as requirements are clarified. Late changes, when a project is in construction are often client driven, as their understanding of their desired outcome evolves. This leads to scope changes, late delivery, re-work and cost increases for the client, the consultants and the contractor. Our industry is not considered to have modernised to the same extent as other industries and there are opportunities with new technologies to build, share and work in a collaborative way to deliver the necessary improvements.

On large scale infrastructural projects, specific 3D modelling requirements are becoming commonplace. To deliver in 3D, there is a significant step change in service delivery to a collaborative environment, required from all design professionals, contractors and operators involved. For all project participants to work in an integrated collaborative way and deliver on time to realistic project budgets there must be a consistency of approach across all phases of the project. A national BIM mandate and digitisation within the industry will help drive this forward.

To work in a data driven, high technology environment our staff must develop new skills that will enable them to work in the complex world of 3D modelling. In collaboration with academic institutions we seek out suitable training courses and programmes to enable upskilling of staff and management. A programme specifically designed for, and with relevant modules to support, evolving digital technologies is essential. This includes not only technical skills but also behavioural change from a conflictual approach to a collaborative approach. Behavioural change is a pre-requisite if the benefits of technology and other industry advances are to be realised. Such training is now becoming available to the wider industry through new courses and programmes in third level colleges and industry led initiatives such as the CitA programme with Enterprise Ireland and IDA support.

Our industry will build digital capability by developing core personnel, progressively adapting to the ever changing environment, and a company and industry wide commitment to change and adapt. Transforming our businesses to meet the needs of the digital world is at the very core of our activities within ACEI, encompassing strong values, robust business processes and best in class delivery methods.

The majority of digital transformations fail (up to 84% according to Forbes) and more often than not, the issues are related to people – typically hinging on a failure to communicate the vision or empower individuals to transform the organisation from the inside.

Engagement with digital transformation specialists offers organisations a structured and phased approach to achieving sustained success and is based upon five capability categories: Leadership, Processes, Methods, Resources and Expertise. An appropriate digital transformation process is designed to develop the capability and capacity needed, and equip management and staff to deliver collaborative projects.

This will represent a fundamental change to the way we do business, engagement with our partners and suppliers, and adds value for our clients. Focussing on people, culture and behaviours will achieve sustained success in the digital era. Full integration of information (management databases, GIS, quality, environmental, surveys etc.) is essential.

For all parties to achieve collective business benefits and deliver best value to the client, everyone needs to be fully engaged in the project information management process, have the capability to undertake their respective responsibilities and demonstrate appropriate collaborative behaviours. Investing significant resources to support our clients, partners and suppliers on their digital transformation journey is part of our ethos in ACEI.

Extending the use of digital processes from the design stage through the construction phase, creating lifecycle engagement and enriching the models with data make the models a core tool for future maintenance and operation. This in turn is creating a requirement for skilled and competent users of the technologies in client organisations if they are to realise the full benefits of digital delivery.

Building capacity in digital construction is facilitating Irish design team participation and leadership in infrastructure projects in the UK and Europe.

CONDITIONS OF ENGAGEMENT



ACEI and Engineers Ireland issued revised Conditions of Engagement in 2020:

- Agreement SE 9101 for the appointment of a consulting engineer for structural engineering work, and
- Agreement ME 2000 for the appointment of a consulting engineer for building services engineering work where the engineer is not the lead consultant.

With the exception of the individual services to be delivered by the Consulting Engineer, SE 9101 and ME 2000 are very similar.

The main changes to the documents relate to the following issues:

- The major changes to Building Control Legislation following the introduction of BC(A)R, S.I. 9 of 2014,
- The revisions to Health & Safety Legislation in relation to domestic clients, with the Safety, Health and Welfare at Work (Construction) Regulations 2013, S.I. 291 of 2013,
- The setting out of the normal allocation of design team responsibilities in relation to drainage,
- The elimination of the Memorandum of Agreement,
- The definition of the information to be provided by the

Client to the Consulting Engineer where BIM and /or digital deliverables are specified for a project.

There are also a number of other changes to individual clauses throughout the documents, particularly in relation to additional services.

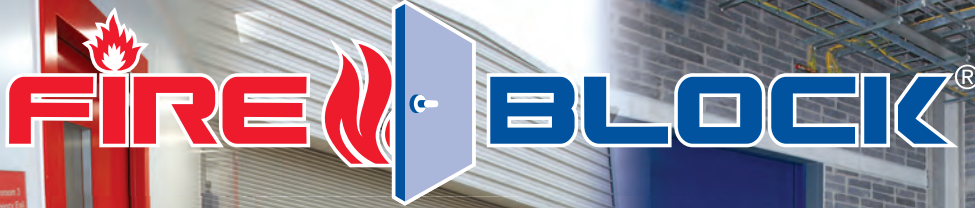
The revised documents carry forward previous critical clauses in relation to liability:

- Limit on Liability
- Net Contribution Clause
- Consequential Loss
- Collateral Warranties

For the benefit of both clients and consultants, the Association strongly recommends the use of these new Conditions of Engagement Agreements for the appointment of consulting engineers.

ACEI considers that the revised documents now reflect the up to date legislative situation in the industry, and that they will be very beneficial in the provision of a comprehensive and professional service to Clients.

Note: Hard copies of the new Conditions of Engagement documents are available from both the ACEI and Engineers Ireland offices.



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GLOSSARY

Explanation of Engineering Disciplines

Civil Engineering

Arterial Drainage
 Bridge and Dam Construction
 Land Reclamation
 Road and Highways
 Sewage Treatment and Disposal
 Site Investigation and Developments
 Water Treatment Storage and Supply
 Industrial Effluent and Pollution Control
 Irrigation Systems
 Environment Studies

Structural Engineering

Foundations
 Building and Structural Frames

Mechanical Engineering

Steam Boiler Plants and Distribution Systems
 Calorifiers Plants
 Water Treatment & Filtration
 Dust Extraction & Collection
 Fire Protection & Prevention
 Compressed Air & Vacuum Systems
 Pneumatic Conveyors
 Hospital Services
 Laboratory Services
 Fuel Oil Storage & Distribution
 Gas Fuel Supply & Distribution
 Piping Systems
 Cooking & Catering Equipment
 Laundry Equipment
 Sterilising Equipment & Systems
 Conveyor Systems & Mechanical Handling Plant
 Refuse Collection & Disposal Systems
 Vibration Control
 Sound Insulation & Control
 Acoustical Design & Treatment
 Piped Waste and Soil Systems
 Industrial Effluent and Flue Gas Treatment

Marine Engineering

Sea and River Dredging
 Sea Walls and Erosion Protection
 Jetties, Wharves and Harbours
 Marine Structures

Traffic Engineering

Traffic Studies
 Transport Systems

Electrical Engineering

Electrical Generating Plant
 Main & Emergency Supply Systems
 H.T. & L.T. Distribution and Sub-Stations
 Internal Distribution Systems
 Illumination Engineering
 Power Systems & Supply
 Instrumentation
 Street & Area Lighting
 Hoists, Escalators & Lifts
 Communication Systems
 Fire Detection and Alarm Systems
 Time Recording and Display Systems

Public Address, Personnel - Location and Call Systems
 Radio and Television Installation
 Central Distation Systems
 Lighting Protection Systems

Heating, Ventilating and Air-Conditioning

Heat Generators
 Heating Installations
 Hot and Cold Water Storage and Distribution
 Refrigeration & Cold Storage
 Air-Conditioning Installations
 Ventilation Systems
 Thermal Insulation

Explanation of Abbreviations

A Associate
 AM Associate Member
 AIEE American Institute of Electrical & Electronic Engineers
 ASCE American Society of Civil Engineers
 ASHRAE American Society of Heating, Refrigeration & Air-Conditioning Engineers
 BA Bachelor of Arts
 BAI Bachelor in Arte Ingeniaria (Engineering)
 BE Bachelor of Engineering
 BSc Bachelor of Science
 CEng Chartered Engineer
 CI Arb Institute of Arbitrators
 CIBSE Chartered Institution of Building Services Engineers
 DCT Diploma in Concrete Technology
 DEM Diploma in Engineering Management
 DIC Diploma of the Imperial College of Science & Technology
 DipEng Diploma in Engineering
 DLA Diploma in Liberal Arts
 DPA Diploma of Public Administration
 Eur Ing European Engineer
 F Fellow
 FB Faculty of Building
 FConsEI ACEI Fellow Professional Consulting Engineer
 Grad Graduate
 ICE Institution of Civil Engineers
 IEE Institution of Electrical Engineers
 IEI Institution of Engineers of Ireland
 IF Institute of Fuel
 IHT Institution of Highway and Transportation
 IHVE Institution of Heating & Ventilation Engineers
 IIMH Irish Institute of Materials Handling
 IMarE Institution of Marine Engineers
 IMechE Institute of Mechanical Engineers
 IMunE Institution of Municipal Engineers
 Ing.EurEta EurEta Registered Engineer (European Higher Engineering and Technical Professionals Association)
 InstME Institution of Maintenance

Engineering
 InstP Institute of Petroleum
 INSTWPC Institute of Water Pollution Control
 IPHE Institution of Public Health Engineers
 IStructE Institution of Structural Engineers
 IWEM Institution of Water and Environment Management
 IHEEM Institute of Healthcare Engineering and Estate Management
 InstE Institute of Energy
 InstPet Institute of Petroleum
 InstTE Institute of Transport Engineering
 InstWPC Institute of Water & Pollution Control
 IOR Institute of Refrigeration
 IOSH Institute of Safety and Health
 IPHE Institution of Public Health Engineers
 IPI Irish Planning Institute
 IProjMng Institute of Project Management
 M Member
 MA Master of Arts
 MAI Master in Artia Ingeniaria (Engineering - TCD)
 MASc Master of Applied Science
 MBA Master of Business Administration
 MEM Master of Engineering Management
 MEng Master of Engineering
 MConsEI Member of Association of Consulting Engineers of Ireland (ACEI)
 MConsE Member of Association of Consulting Engineers (UK)
 MCGI Member of the City and Guilds of London Institute
 ME Master of Engineering
 MEngSc Master of Engineering Science
 MIE Master of Industrial Engineering
 MSc Master of Science
 PhD Research Degree – Doctor of Philosophy
 Pind Diploma in Industrial Engineering (Madrid University)
 PE Professional Engineer (Licence to practice in a State of the USA)
 Professional Engineer (Licence to practice in a province of Canada)
 RConsEI ACEI Registered Professional Consulting Engineer
 RIAI Royal Institute of the Architects of Ireland
 RSH Royal Society for the Promotion of Health
 RTPi Royal Town Planning Institute
 SFPE Society of Fire Protection Engineers (US)
 SLL Society of Light and Lighting
 SM Student Member
 VDI German Association of Engineers

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TOTAL EMPLOYEES

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TOTAL EMPLOYEES

1

ABOUT THE FIRM

Formerly Engineering Design and Management (EDM). The firm was established in 1997 and has gained a reputation for high quality design and service in the Building Services Industry both nationally and internationally. International experience has been gained in England, Holland, Italy, Libya, Egypt, Nigeria, Sudan, the Kingdom of Saudi Arabia, Japan and the United States of America. It is the mission of the firm to deliver technically innovative, sustainable and cost effective Engineering solutions to clients on time and to the highest level of national and international standards of excellence, quality and safety.

The firm is affiliated to a number of professional engineering bodies including Engineers Ireland, Association of Consulting Engineers of Ireland, Chartered Institution of Building Services Engineers, Society of Light and Lighting, European Federation of National Engineering Associations and European Association of Practice-oriented Professionals with Higher Education.

ENGINEERING ACTIVITIES

Sustainable Building Services Engineering, Mechanical Engineering, Electrical Engineering, Health and Safety, Fire Safety, Data Communications and Infrastructure, Vertical Transportation, Specialist Lighting, Low Energy and Sustainable Solutions, Energy Audits, Building Refurbishments, Maintenance Engineering, Building Services Insurance Claims, Accident Investigations, Forensic Engineering, Project Management, Project Monitoring and Cost Management.

PROJECT TYPES

Office Developments, Health Care Facilities, Pharmaceutical Plants, Clean Rooms, Data Centres, Industrial/Production Facilities, Warehouses, Educational Buildings, Embassies, Agricultural, Social Housing, Community Centres, Religious Buildings, Hotels/Apartments/ Housing, Private Dwellings, Sports and Leisure, Shopping Centres, Airport Facilities, Information and Communications Technology Projects, Lighting Projects, Refurbishment Projects, Historic Buildings, Temporary Installation Projects, Accident Investigations and Forensic Engineering.

AGL CONSULTING

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Conor O'Donnell**, BA, BAI, MNS, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

8

ABOUT THE FIRM

AGL Consulting is one of the leading geotechnical engineering consulting firms in Ireland. We are an independent Irish-owned company based in Dublin. The company was set up in January 2001 by Dr. Eric Farrell and Conor O'Donnell to provide expert consulting and design services in the fields of Geotechnical Engineering, Engineering Geology and Hydrogeology.

Since its inception, AGL has worked on a diverse range of projects including tunnels, waterfront structures, motorways, flood control schemes, pipelines, water treatment systems, power stations, windfarms and large scale commercial and residential developments. We have worked on many of the technically challenging landmark civil projects in Ireland including the Dublin Port Tunnel, Limerick Tunnel PPP Scheme, Corrib Onshore Gas Pipeline and Dublin Port Alexandra Quay Development.

We have been involved in the earthworks design for over 150 km of motorways around Ireland, and the geotechnical design of a large number of windfarm projects, many of which had challenging geotechnical conditions on unstable upland blanket peat bogs or reclaimed tidal mudflats. We have provided expert geotechnical design services for large commercial developments with deep basements in congested urban settings such as the Dublin Central Shopping Centre and the Dundrum Town Centre.

Through our work we have gained extensive and invaluable experience in design and construction in a variety of ground conditions throughout Ireland, the UK and abroad. Our clients include many of the leading large civil contractors in the country, as well as a number of engineering consulting firms, local authorities, and property developers.

It is our mission to deliver technically innovative and cost-effective geotechnical designs to our clients on-time and to the highest international standards of excellence, quality and safety.

ENGINEERING ACTIVITIES

Foundation Design – Piling and Spread Footings, Earth Retaining Structures and Excavation Support Systems, Tunnelling, Micro-Tunnelling and Pipe-Jacking, Earthworks Design for Civil Works, Slope Stability Analysis in Soil and Rock, Ground Anchors and Anti-Flotation Tension Piles, Ground Improvement Techniques, Geotechnical Instrumentation, Desk Studies and Walkover Surveys, Environmental Impact Statements (Soils & Geology), Ground Investigations, Geotechnical Interpretive and Design Reports.

PROJECT TYPES

Geotechnical Risk Management, 2D and 3D Finite Element Analysis, Groundwater Modelling, Construction Over Soft Ground, Temporary Works Designs, Expert Witness for Arbitration and Conciliation.

ARUP

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Clodagh O'Donovan**, BE, MEngSc, CEng, FIEI, MCIWEM, CWCM, FConsEI
- **Denis Crowley**, BE, CEng, MIEI, FConsEI
- **Liam Luddy**, BE, CEng, MIEI, DipLaw, FConsEI
- **Joe Burns**, BE CEng MIEI MStructE, FConsEI

TOTAL EMPLOYEES

650

ABOUT THE FIRM

Arup is the creative force at the heart of many of the world's most prominent projects in the built environment and across industry. With 89 offices across 33 countries, Arup has 15,000 designers, engineers, consultants, project managers and technical specialists delivering innovative projects around the world with creativity and passion. We offer a broad range of professional services that combine to make a real difference to our clients and the communities in which we work. We have been delivering landmark projects since our foundation in Ireland in 1946. Arup is one of the largest consulting engineering practices in Ireland, providing multidisciplinary engineering and advisory services from our offices in Dublin, Cork, Belfast, Galway and Limerick. We have built a reputation for unrivalled quality, local expertise and knowledge. With an enduring set of values and sense of purpose, our unique trust ownership fosters a distinctive culture that encourages collaborative working. This allows us to develop meaningful ideas, help shape agendas and deliver results that frequently surpass the expectations of our clients. The people at Arup are driven to find a better way and to deliver better solutions. Sustainable development is central to all our work. Through our diverse and expanding range of disciplines, we strive to shape a better world by designing safe, inclusive and resilient communities, infrastructure and cities.

ENGINEERING ACTIVITIES

Advisory Services, Asset & Facilities Management, BIM, Business Investor Advisory, CFD, Civil, Controls, Cost Consulting, Digital Property, Electrical, Energy, Environmental, Façade, Fire and Public Health Engineering, Ground Engineering, Health & Safety and Risk Management, Information and Communications Technology, Intelligent Mobility, Lighting, Masterplanning & Urban Design, Mechanical, Planning, Project & Programme Management, Road Pricing, Site infrastructure design, Site location and assessment, Structural, Sustainability, Transport Planning, Wellness consulting

PROJECT TYPES

Aviation, Highways, Bridges/Civil Structures, Rail, Water, Flood Risk Management, Maritime, Energy, Social Infrastructure, Commercial Property, Science, Industry & Technology, Healthcare, Residential, Mixed Use and Education.

AXISENG

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FConsEI- ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Cian Dowling**, BSc (Hons) Eng, Dip Eng, CEng, MIEI, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEER

- **Rachel McKenna**, BEng, CEng, MCIBSE, DipProjMgt, LEED AP, RConsEI

TOTAL EMPLOYEES

40

ABOUT THE FIRM

Axiseng is a well-resourced, independent building services consultancy practice formed in 2004. We have established a reputation for consistently delivering a high quality service across a broad range of projects including large commercial developments, institutional refurbishments and complex industrial installations. Our directors are well known in the construction industry for their integrity, expertise and project commitment, and are recognised leaders in the fields of sustainable design, complex air conditioning installations and master planning major developments. The size of our practice allows the directors to maintain a strong personal presence throughout the full duration of every project.

ENGINEERING ACTIVITIES

Mechanical and Electrical Building Services, Sustainable/ Energy Engineers, Energy Modelling, Daylight/Sunlight Analysis, Net Zero Carbon Solutions, Heating / Ventilating and Air-Conditioning, Medical Gas Design, Project Management, Fire & Security Engineering, ICT & Communication Systems, Vertical Transportation Engineering, MEP Cost Control, 3D Building Information Modelling (BIM), BCAR Inspection / Reporting, Public Lighting, Value Engineering.

PROJECT TYPES

Commercial, Retail, Pharmaceutical, Education, Hotel, Sports and Leisure, Energy Audits, Health Care, Religious, Residential, Prisons, Industrial, Exhibition Spaces, Sports Stadia Facilities, Protected Structures / Historical Buildings, Hospitals, Mixed-use Developments, Shopping Centres, Master planning, Nursing Homes, Institutional, Heritage.

BARRETT MAHONY CONSULTING ENGINEERS

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Ciarán Kennedy**, BSc(Eng), DipStructEng, CEng, MIEI, MIStructE, FConsEI
- **Brian Mahony**, BE, DipCompEng, CEng, MIEI, MIStructE, FConsEI
- **John Considine**, BE, CEng, MIEI, MIStructE, FConsEI
- **Stephen O'Connor**, BSc(Eng), DipStructEng, CEng, FConsEI
- **Vincent Barrett**, BSc(Eng), DipStructEng, MSc, DIC, CEng, MIEI, MIStructE, FConsEI
- **Michael Hughes**, BEng, CEng, MIEI, MIStructE, MICE, Eur Ing, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEER

- **Liam Heffernan**, BSc(Eng), DipStructEng, MSc(Eng), CEng, MIEI, MIStructE, MIBCI, RConsEI

TOTAL EMPLOYEES

100

ABOUT THE FIRM

Barrett Mahony Consulting Engineers (BMCE) is a Civil and Structural Engineering Consultancy established in Dublin in 1994. BMCE is a progressive practice specialising in all aspects of Civil and Structural Engineering, with offices in Dublin and London. The Directors and Staff have extensive experience in both public and private sectors across a broad range of projects including Residential, Commercial, Industrial and Institutional Developments and with a particular specialist expertise in the Refurbishment of Heritage Buildings. The BMCE practice ethos is to foster a positive problem solving approach amongst staff whilst always maintaining a quality assured service with primary emphasis on technical excellence and cost effective design. BMCE recognise the need to continuously invest in their staff and technology in order to provide competitive and up-to-date services to its clients. The Company has comprehensive policies developed and in place in relation to Quality Assurance, Health and Safety and Continuing Professional Development. The Firm is focused on providing a Quality Assured Service to its Clients whilst ensuring that it complies with its responsibilities under Health and Safety legislation both as Designers and as Employers, and that also, as Employers it promotes career satisfaction and progression as key to individual and organisational success. BMCE has received numerous awards and accolades for projects where they have provided noteworthy designs.

ENGINEERING ACTIVITIES

Structural, Civil, Project Management.

PROJECT TYPES

Construction Commercial, Retail & Office, Residential, Mixed Development, Education, Master Planning, Industrial Developments, Bridges, Healthcare, Institutional, Restoration & Protected Structures, Church Refurbishment, Government Departments, Multistorey Car Parks.

BCE, BELTON CONSULTING ENGINEERS LTD

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E: info@bcge.ie

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Shane Belton**, BScEng CEng, FConsEI

TOTAL EMPLOYEES

8

ABOUT THE FIRM

Murphy Belton are a Dublin based consulting engineers company, offering expertise in mechanical, electrical, and public health engineering. Sustainability and energy conservation is at the core of what we do. Our ideology is centred on three core pillars.

To optimise client investment through simple yet innovative design with a goal to maximise client return.

To deliver better design through our unique structured process system, utilising systemisation to deliver consistency and quality in all our projects.

To be 'easy to get along with', we pride ourselves on our staffs ability to problem solve, be proactive and flexible and effective communicators.

How we Deliver Quality Design – E3D Process

Extract – Our Engineers are trained to ask better questions – we don't make assumptions, there is no guessing. Our mantra is give them what they want not what we think they want. How do we deliver this? Through clarifying the design goals and working in collaboration with the design partners.

Define / Design – Our objective is to mitigate risk of budget creep, lockdown scope, and correlate technology to maximise efficiency and keep it simple.

Deliver – Our aim is to deliver quality and consistency through benchmark processes. To engage in proactive problem solving. To be flexible yet creative and always adhere to the age-old adage 'the value is in the finishing'.

Murphy Belton's strengths lie in our communication and collaboration skills making us strong team players in any design team.

ENGINEERING ACTIVITIES

Building Services, Medical Gas Design, 3D Building Information Modelling (BIM), Energy Engineering, Heating / Ventilating and Air-Conditioning, Sustainable Engineering Design, Project Management, Fire & Security Engineering, Services Cost Control, BCAR Inspection/Reporting, Vertical Transportation Engineering, ICT & Communication Systems.

PROJECT TYPES

Offices / Commercial / Light Industrial, Laboratories, Third Level Sector, Clean Rooms, Retail, Hospitals / Healthcare Buildings, Residential, Heritage, Leisure Facilities, Public Buildings, Schools, Hospitals, Refurbishment, Bridges, Roads, Ports and Harbours, Surveys, Hotel & Leisure, Courtroom Facilities.

BDP

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **David Brennan**, BEng, CEng, MIEI, MCIBSE, FIHEEM, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEER

- **Patrick Kavanagh**, BE, CEng MIEI, RConsEI

TOTAL EMPLOYEES

22

ABOUT THE FIRM

BDP is a multi-professional practice providing a high quality, integrated design service for the built environment. We have offices in Ireland, Britain, Netherlands, Canada, India, China and the Middle East. We have been working successfully in Ireland for over 50 years offering a wide spectrum of professions and skills. Our integrated service is supported by the latest technology and computer aided design and we are able to network skills and experience around the practice to the benefit of our projects. We also operate an 'all through' Quality Management systems, which meets the requirements of ISO 9001 and an Environmental Management System which meets the requirements of ISO 14001.

We are passionate about designing sustainable, low energy buildings and for over 25 years our Dublin team have worked closely with our clients to deliver design solutions that minimise carbon emissions.

ENGINEERING ACTIVITIES

Mechanical and Electrical, Structural, Civil, Specialist Lighting, Acoustics, Heating, Ventilation and Air Conditioning, Dynamic Simulation Modelling, Low Energy / Low Carbon / Sustainable Design, BER Certification, BREEAM Assessors, LEED, WELL, WIRED, Life Cycle Assessments.

PROJECT TYPES

Education, Hospitals / Healthcare, Offices Developments / Fit Outs, Hotels, Residential, Mixed-use Developments, Commercial, Industrial, Shopping Centres, Leisure / Sports Centres, Historic Refurbishment, Master planning.

BJS CONSULTANTS

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Brendan Sheehan**, CEng, MIStructE, FConsEI

TOTAL EMPLOYEES

9

ABOUT THE FIRM

BJS Consultants was formed in 1998 by Brendan Sheehan, Chartered Structural Engineer with over thirty years' experience working with major consultancies in Ireland and overseas. The firm has completed a wide variety of projects and has the resources to provide a complete package for our clients. We offer a high quality, cost effective Civil, Structural & Environmental Engineering Service with the emphasis placed on a personal service to the client. This ensures that our clients deal directly with the same team who are responsible for their project from start to finish. We also have ISO 9001 and ISO 14001 certification.

ENGINEERING ACTIVITIES

Civil, Structural & Environmental, Engineering, Temporary Works Design, Project Management, Site Supervision, Surveys & Monitoring.

PROJECT TYPES

R&D and Industrial facilities, Schools, Healthcare Facilities, Sports/Leisure facilities, Refurbishments of old & Historical Building, Property Surveys, Vibration and Noise, Monitoring, Temporary Work Design.

BRACKFIELD CONSULTING LTD

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Kevin Brackfield**, BEng (Hons), CEng, MIStructE, MIEI, FConsEI

TOTAL EMPLOYEES

6

ABOUT THE FIRM

Brackfield Consulting was established in 2009 by Kevin Brackfield as a general application engineering consultancy including architectural services. Kevin was previously Director of Off-Site Construction Design Ltd and B&E Consultants and he has 30 years' consultancy experience. Finalists in the award for excellence in Architectural Technology 2022 Brackfield Consulting places great emphasis on green design and ethical business practices.

ENGINEERING ACTIVITIES

Civil & Structural, Temporary works, Architectural, Report and advisory, Conservation, Project Management.

PROJECT TYPES

Structural/Architectural, Temporary Works Design, Restoration of Historic Buildings, Residential, Industrial, Educational, Commercial, Pyrite, Reporting and expert witness services.

BUNNI & ASSOCIATES LTD

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Nael G. Bunni**, BSc, MSc, PhD, CEng, FIEI, FICE, FStructE, FCI Arb., FIAE, FConsEI

TOTAL EMPLOYEES

2

ABOUT THE FIRM

In 1994 Dr Bunni established the firm of Bunni & Associates Ltd. and has continued to practice his Engineering Activities. Until March 1994, Dr Bunni was a Senior Director of T.J. O'Connor & Assoc., Consulting Engineers, Dublin, which was established in 1937. He joined the above firm in 1969.

ENGINEERING ACTIVITIES

Civil & Structural, Forensic Engineering, Dispute Resolution, Construction Insurance.

PROJECT TYPES

Expert Adviser in Dispute Resolution, Arbitrator in International Dispute, Conciliator, Arbitrator in Domestic Dispute, Dispute Board Member.

CARRAIG CONSULTANTS

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Ciarán MacIntyre**, BAI, CEng, MIEI, MStructE, MCI Arb, FIHEEM, FConsEI

TOTAL EMPLOYEES

1

ABOUT THE FIRM

Carraig Consultants was established in 2009 by Ciarán MacIntyre as an independent niche consultancy with a particular focus on structural design, project management and report & advisory work. Ciarán is an ACEI Registered Chartered Engineer with more than 35 years engineering consultancy experience in the built environment and he is committed to taking personal charge from inception to completion of all work undertaken by Carraig. Ciarán was a Director of P.H McCarthy & Partners from 1997 to 2007. In October 2007 PH McCarthy & Partners was acquired by WYG Ireland and Ciarán became a Director of WYG Engineering. He continued to work with WYG until October 2009 when he set up Carraig Consultants.

ENGINEERING ACTIVITIES

Structural, Civil, Conservation, Project Management, Report & Advisory, Value Engineering, Dispute Resolution.

PROJECT TYPES

Residential, Commercial, Industrial, Health, Educational, Restoration & Conservation.

CHH CONSULTING ENGINEERS

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Paul Henry**, BScEng (Hons), Dip Eng, Eur Ing, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

6

ABOUT THE FIRM

Established in 1981 as Concannon Healy Heffernan and recently re-branded to CHH Consulting Engineers. Predominantly based in North-West but expanding to cover a large area of Ireland.

ENGINEERING ACTIVITIES

Civil, Structural.

PROJECT TYPES

Site Developments, Water Supply & Drainage, Residential Developments, Retail & Office Developments, Civic & Public Buildings, Building Restoration Projects, Hotel & Tourism Developments, Hospital & Healthcare Projects, Sports Hall & Leisure Projects, Third Level Colleges, School & Education Facilities, Banking & Institutional Projects, Energy & Wind farm Projects.

CLIFTON SCANNELL EMERSON ASSOCIATES

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Geoff Emerson**, BE, MSc(Eng), CEng, MIEI, FConsEI
- **Aidan Smith**, Dip Eng, BSc(Eng), MSc(Eng), CEng, MIEI, A.IOSH, FConsEI
- **Geoffrey J. Emerson**, BE, CEng, MICE, MIEI, MCIWEM, MASCE, FConsEI

TOTAL EMPLOYEES

75

ABOUT THE FIRM

Clifton Scannell Emerson Associates is an independent, Irish owned firm of civil and structural consulting engineers incorporated in 1986 and originally founded in 1952. Our expertise covers a range of civil, structural, transportation and environmental engineering as well as project management. We pride ourselves in delivering engineering and management skills to give optimum value and sustainable solutions to our valued clients. We are ISO 9001:2015 & OHSAS18001 certified and are accredited members of Engineers Ireland's CPD programme.

ENGINEERING ACTIVITIES

Civil, Structural, Transportation, Environmental, Project Management, Project Supervisor Design Process (PSDP).

PROJECT TYPES

Roads, Bridges and Transport Schemes including Cycle Network Schemes, Bus Corridors and Green Routes. Site development, Water and Drainage schemes, Airport facilities, Bridge design and assessment, Building assessment and refurbishment, Commercial / industrial / office buildings, Conservation and restoration, Data centre developments, Heritage centres, Hospitals and healthcare projects, Cemeteries and Crematoriums, Industrial and business parks, Multi-storey car parks and transport depots, Prison facilities, Residential developments, Universities / colleges / schools, Large catchment studies, Masterplanning, Transportation studies, Traffic impact assessment and mobility plans.

CS CONSULTING GROUP

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OFFICES

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Pearse Sutton**, CEng, BSc(Eng), DipStructEng, FIEI, MAPEGS, FStructE, DipEnvEng, Eur Ing, LEED Assoc, FConsEI

TOTAL EMPLOYEES

50

ABOUT THE FIRM

CS Consulting Group (Cronin & Sutton Consulting) is a Group of civil and structural engineers based in Dublin, Limerick and London which was founded in 2012. CS Consulting draws on the knowledge and experience of our Founders and Management Team. All have directed significant development projects in several territories, ranging from commercial and retail to residential and mixed-use. Our vision is to deliver the highest level of excellence in engineering. We aspire to this from a solid base. Our track record is one of top-quality design, advice and service across Ireland and UK. We hold accreditation to ISO 9001, ISO 14001, OHSAS 18001 and ISO 50001, demonstrating the highest commitment to Quality, Environmental, Health & Safety and Energy Management.

ENGINEERING ACTIVITIES

Structural, Civil (and associated structures), Traffic & Transport, Health & Safety, Environmental, Energy Management, Sustainability.

PROJECT TYPES

Residential/Mixed Use, Industrial, Office/ Commercial, Health Care, Housing/Apartments, Roads and Drainage, Environmental Projects, Refurbishment Projects, Public Sector Projects, LEED Accreditation, Traffic & Engineering, Hotel, Retail and Leisure.

C S PRINGLE

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Marcus Dancey**, BSc(Eng), DipEng, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

9

ABOUT THE FIRM

The current practice continues in the tradition of the original firm originally established in 1973 by Christopher S Pringle. Consisting of Chartered Engineers, Architects and Registered Building Surveyors most projects are handled fully in-house. The current practice provides a wide-ranging engineering service to our clients, with an emphasis on first-principles design, appreciation of sustainability and of the interrelated disciplines within construction. We act as retained engineers for a number of large manufacturing industries where our engineering versatility and prompt turnaround of work engenders longstanding relationships.

ENGINEERING ACTIVITIES

Civil, Structural, Fire, Assigned Certifier, Project Supervisor Design Process, Sustainable Design.

PROJECT TYPES

Commercial/retail, Industrial/warehousing, Mixed use developments, Resource/recreational centres, Educational buildings, Healthcare buildings, Sports facilities, Hotel and leisure facilities, Housing retrofits, New housing developments, Flood risk assessments, Conservation engineering.

CUNDALL LTD

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Gerard Doyle**, BEng(Hons), CEng, MIStructE, MIEI, FConsEI
- **Derry Kearney**, BSc(Hons), BEngTech, CEng, MCIBSE, FConsEI

TOTAL EMPLOYEES

20

ABOUT THE FIRM

The firm was founded in 1976 and over the past 40 years has become a global multi-disciplinary engineering consultancy with offices in Dublin and Belfast and a further 21 offices and 900 employees worldwide. We have brought our knowledge and award-winning engineering expertise to each of these markets, and tailored it to suit individual local needs. Our success in these markets is attributed to our ability to be flexible, highly responsive and adaptable to the different challenges, regulations and local practices which influence the delivery of projects in each region. With staff across the globe offering a full range of integrated engineering services, we are big enough to be able to provide a highly focused and dedicated team on our clients' projects, but still at a size where our core values can be effectively applied. Every project is led by a Partner/Director to provide the right experience and guidance throughout the life of the project.

ENGINEERING ACTIVITIES

Acoustic engineering, Building Information Modelling (BIM), Building automation, Building Performance Services (BPS), Building services engineering, PSDP consultancy, Civil engineering, Data Centre Infrastructure Management (DCIM), Fire engineering, Geotechnical and geoenvironmental, Health and wellbeing, IT and audio visual, Specialist Lighting (Light 4), Planning, Structural engineering, Survey solutions, Sustainable design, Transportation and Vertical transportation.

PROJECT TYPES

Aviation, Critical Systems / Data Centres, Education, Government, Healthcare, Industrial, Lifestyle, Masterplanning and infrastructure, Residential, Retail, Workplace and Mixed-use.

DAVID KELLY PARTNERSHIP

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OFFICES

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Colin Brennan**, BE, CEng, MIEI, FConsEI
- **Dermot O'Shea**, BE, CEng, MIEI, FConsEI
- **John Kelly**, BE, MSc, CEng, MIStructE, MIEI, Conservation Accredited Engineer, FConsEI

TOTAL EMPLOYEES

9

ABOUT THE FIRM

The Practice commenced in 1987 and has undertaken a wide range of structural engineering projects, together with civil engineering works such as earth and water retaining structures, storm and sanitary drainage and small bridges. The Partnership has a long established practice in historic building conservation, including National Monuments and historic buildings & structures. Accredited to ISO 9001:2015.

ENGINEERING ACTIVITIES

Structural, Civil, Statutory Planning, Building Conservation, Fire Safety, Geotechnical.

PROJECT TYPES

Office Buildings, Educational Buildings, Industrial Buildings, Multi-storey Residential Buildings, Retail and Commercial Developments, Infrastructure for Housing Development, Conservation of Historic Buildings and National Monuments, Public Realm Rejuvenation, Quay Wall Repair, Foundation Design in karstified limestone areas.

DAVID REHILL CONSULTING

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **David Rehill**, BE, CEng, MBA, Dip Proj Mgt, MStructE, MIE, FConsEI

TOTAL EMPLOYEES

1

ABOUT THE FIRM

David Rehill Consulting was established in 2022 to provide bespoke engineering advice and solutions to Clients in Ireland and Germany. David has +20 years' experience as Project Lead on many large multi-million euro residential, commercial, industrial, and mixed-use developments in Ireland, the UK, mainland Europe and Middle East. He brings a very practical mindset to collaborative workshops and has a wealth of experience in large building projects in a variety of structural forms, such as steel frame, insitu concrete, precast concrete, post-tensioned concrete, modular construction, and historic buildings. David is a Chartered Engineer with Engineers Ireland and the Institute of Structural Engineers.

ENGINEERING ACTIVITIES

Structural Engineering, Civil Engineering, Environmental Engineering, Traffic and Transportation, Technical Due Diligence, Site Feasibility Studies, Planning Applications, Project Management.

PROJECT TYPES

Structural Engineering, Civil Engineering, Due Diligence Reports, Feasibility Studies, Value Engineering, Planning Applications, Protected Structure refurbishment.

DBFL CONSULTING ENGINEERS

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **James G. Lawler**, BE, DIP COMP, CEng, MIEI, FConsEI
- **Paul M. Forde**, BE, CEng, MStructE, FIEI, FConsEI
- **Dan Reilly**, BEng, CEng, FConsEI
- **John Hayes**, BScEng, CEng, MIEI, FConsEI
- **John Keane**, BSc (Eng), CEng, MIEI, MICE, FConsEI

TOTAL EMPLOYEES

202

ABOUT THE FIRM

DBFL Consulting Engineers is one of Ireland's leading civil, structural and transportation engineering consultancies. We combine commercial understanding with innovative engineering solutions.

For over 35 years, DBFL has been successfully making designs a reality across commercial, institutional, educational, industrial, infrastructure, transportation and marine sectors. We have built our reputation by providing a high level of personal service to both public and private clients in each of our three disciplines across Ireland, UK and Europe.

13 senior directors provide easily accessible points of contact to provide our clients with experienced decision-makers and economical and workable solutions. Backed by a workforce of over 200 dedicated staff, we have the capacity to manage all civil and structural aspects of projects, both large and small.

ENGINEERING ACTIVITIES

Civil, Structural, Traffic & Transportation.

PROJECT TYPES

Commercial, Retail, Ports & Airports, Residential, Institutional, Healthcare, Hotels & Leisure, Roads, Traffic & Transportation, Infrastructure, Education, Refurbishment/Conservation, Industrial.

DELAP & WALLER

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Liam O'Hagan**, BSc, CEng, MCIBSE, MIEI, FIHEEM, FConsEI
- **Michael O'Doherty**, BEng, CEng, MCIBSE, MIMechE, FConsEI

TOTAL EMPLOYEES

15

ABOUT THE FIRM

Founded in Dublin in 1911, Delap & Waller is a Building Services and Sustainable Design Consultancy who are engaged in designing Mechanical, Electrical and Sustainability Systems for all Building types. We have been providing market leading engineering services for end-user Clients, Developers, Main Contractors and Design and Build / PPP Contractors for over 100 years. In addition to our tailored Mechanical & Electrical design services we offer a range of related services including Sustainability Services and specialist Legal Services. As qualified engineers we can produce legal reports on a variety of issues ranging from mechanical or electrical damage to properties, planning permission disputes to accident reports. Some of the sustainable services we offer include: BREEAM Assessments/ BER Certificates/ CFD Modelling / Building Simulation/ Code for Sustainable Homes/ Energy Management/ Environmental Studies and Engineering/Life Cycle Costing/Sustainable Building Services – SBEM & EPC Assessors Some of our recent awards include the ACE Consultancy of The Year and NI Construction Excellence Award in Commercial Development Category.

ENGINEERING ACTIVITIES

Sustainable building services, Electrical engineering, Mechanical engineering, Energy management, Health and safety, Project management, Accident investigation, Arbitration and litigation.

PROJECT TYPES

Commercial/Office, Healthcare/Hospital, Infrastructure, Education; Retail, Hotel/Leisure, Residential/Mixed Use, Heritage/ Museums, Sports Stadiums.

D. FALLON CONSULTING ENGINEERS

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Damien Fallon**, B Eng, M Eng Sc, C Eng, MIEI, FConsEI

TOTAL EMPLOYEES

9

ABOUT THE FIRM

D. Fallon Consulting Group (DFCG) is a multi-disciplinary construction consultancy company operating out of Galway & Dublin, providing services nationwide. We work with many of the Ireland's blue-chip public and private sector infrastructural clients. The Group incorporates D Fallon Consulting Engineers (DFCE) and D Fallon Building Design (DFBD) to provide full AEC services to clients on major public and private sector building and infrastructural projects. DFCE is our Civil & Structural consultancy company, with DFBD our Architectural consultancy company. DFCG also works with established Building Services and Quantity Surveying consulting partners to provide full single point Design Team services to clients, when required.

ENGINEERING ACTIVITIES

Civil & Structural, Design Team services.

PROJECT TYPES

Public and Private sector building and infrastructural projects, Project Management, Employer's Representative Services, Single-Point Design Team Management, Quantity Surveying (with strategic partner company), Building Services Engineering (with strategic partner company), Civil Engineering, Structural Engineering, Drainage Engineering, Traffic Engineering, Road Safety Audits, Mobility Management Plans, Environmental Engineering, Water & Wastewater, Structural Surveys, Project Supervisor Design Process (PSDP), Architectural Services, Masterplanning, REVIT BIM / 3D Visualisations, Fire Safety & Disability Access Certificates, Building Regulations Surveys, Assigned Certifier Specialists, Design Certifier Specialists.

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Cathal Kelly**, BSc Eng, Dip Struct Eng, CEng, MIStructE, MIEI, PGDip (FSP), PGDip (PM), FConsEI
- **Emmet Finegan**, BSc Eng, Dip Struct Eng, CEng MIStructE, MIEI, FConsEI

TOTAL EMPLOYEES

14

ABOUT THE FIRM

Doherty Finegan Kelly (DFK) Consulting Engineers was established in 2003 & specialize in all stages of Civil, Structural, Environmental & Fire Engineering. With the three offices, DFK practice is well located to provide a high quality service to our client base throughout the country with attention to detail and cost effective solutions being our priority. Each commission is personally supervised by a director who takes an active role in the evolution of the scheme from concept to completion. The company is registered with the Association of Consulting Engineers of Ireland (ACEI) and all technical staff are members of Engineers Ireland & The Institute of Structural Engineers.

ENGINEERING ACTIVITIES

Civil, Structural, Environmental, Fire Safety, Health & Safety, Legal & Reporting.

PROJECT TYPES

All Types of Business & Retail Parks, Commercial & Industrial Developments, Healthcare & Hospitals, Residential & Domestic Developments, Restoration / Refurbishment, Infrastructural Development Works, Sports & Leisure Facilities including All-Weather Playing Surfaces, Hotels, Nursing Homes & Childcare Facilities, Educational & Schools, Health & Safety & PSDP Role, Legal / Litigation & Expert Witness, Conservation Works, Legal & Planning Reports, Sewerage & Main Drainage, Fire Safety Engineering, Land & Legal Mapping, Percolation & Infiltration Testing & Reports, Storm Water Management, Roads & Junctions, Project Management, Building Energy Ratings – Domestic, Value Engineering, Temporary Works Design.

DONNACHADH O'BRIEN & ASSOC CONSULTING ENGINEERS

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Donnachadh O'Brien**, BScEng, CEng, MIEI, DipEng, DipEnvirEng, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEER

- **Paul Doyle**, BE (Hons), CEng, MIEI, RConsEI
- **Richard Kiernan**, BE (Hons), CEng, MIEI, RConsEI

TOTAL EMPLOYEES

18

ABOUT THE FIRM

Donnachadh O'Brien & Associates is a Civil & Structural Engineering practice and was established in 2010. Donnachadh O'Brien has over 28 years of experience in Civil & Structural Engineering and the practice is involved in the design of a wide variety of projects in both the public and private sector for local authorities, semi-state organisations, institutional companies, private sector companies, private developers and international clients. Our aim is to deliver technical excellence in our design solution in a sustainable and cost-effective manner. We utilise the latest BIM technologies compatible with our Civil and Structural design software in the delivery of innovative engineering solutions, all in accordance with our I.S. EN. 9001 quality accredited system.

ENGINEERING ACTIVITIES

Structural Engineering, Civil Engineering.

PROJECT TYPES

Commercial Developments, Hotels, Residential Developments including Student Accommodation, Educational projects, Healthcare, Leisure/sports including Stadia, Domestic, Conservation Engineering and Refurbishment, Project Management, Infrastructure & Drainage Schemes /SUDS Design, Flood Alleviation Schemes, Temporary Works Design, Value Engineering, Expert Witness and Legal Services.

DON O'MALLEY & PARTNERS LTD

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

• **Liam Kavanagh**, HDip, CEng, FCIBSE, MIEI, MASHRAE, FConsEI

TOTAL EMPLOYEES

14

ABOUT THE FIRM

Don O'Malley & Partners was established in 1967 and is a leading Registered Consulting Engineering Practice specializing in Mechanical and Electrical Building Services Engineering. The Company is based in Limerick City and has gained a reputation for high quality design and service in the Construction Industry. Our Project Portfolio includes work on Commercial, Industrial, Office, Residential, Education, Health Care, Retail, Public Buildings, Culture & Heritage Buildings, Hospitality and Sports & Leisure Projects. Our in-house expertise is provided by highly skilled and experienced Chartered Engineers, Degree Qualified Engineers and Technicians. We utilise the latest mechanical and electrical services design technologies in the delivery of innovative and efficient solutions. These technologies include IES Virtual Environment Design Software, REVIT 3D Software and AutoCAD Version 2017. We can deliver engineering services design solutions for a range of buildings that are now required to meet the latest standards for compliance with Nearly Zero Energy Buildings (NZEB) regulations.

ENGINEERING ACTIVITIES

Mechanical and Electrical Design Consultancy.

PROJECT TYPES

Commercial, Industrial, Office, CAT A and CAT B Fitouts, Residential, Education, Health Care, Retail, Public Buildings, Culture & Heritage Buildings, Hospitality and Sports & Leisure Projects.

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

• **Pearse Douglas**, CEng, MIEI, BScEng, FConsEI (Managing Director)

TOTAL EMPLOYEES

12

ABOUT THE FIRM

Douglas Carroll Consulting Engineers Ltd was established in 2005 and has two directors: Pearse Douglas (Managing Director) and Ted Carroll (Director/Partner). Douglas Carroll provides a consultant mechanical and electrical engineering service and specialises in low energy design using innovative and sustainable design solutions. We focus on integration of services into the built environment.

ENGINEERING ACTIVITIES

Electrical, Mechanical, Lift Services, Health and Safety, Project Management, Project Supervisor Design Process (PSDP).

PROJECT TYPES

Healthcare Infrastructure, Residential, Government, Food Processing, Education, Manufacturing, Commercial, Retail, Conservation, Office Fit-out, Large Campus Mechanical & Electrical Infrastructure Upgrades.

DOWNES ASSOCIATES

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Gavin McHugh**, BE, BSc, MSc, MIStructE, CEng, FIEI, FConsEI

TOTAL EMPLOYEES

17

ABOUT THE FIRM

Downes Associates established in 1997, is a Structural and Civil Engineering Consultancy specialising in the delivery of quality civil and structural design solutions. The practice serves a wide range of private and public sector clients throughout Ireland and has extensive experience in the commercial, residential, industrial and institutional sectors. Downes Associates' core objectives are to provide quality structural designs that are functional, elegant, economic and innovative where possible together with quality drawings and details, as these are vital in communicating designs to the client, building contractor and other design professionals. To deliver these objectives Downes Associates employs a fully integrated team of motivated, skilled and highly qualified engineers and technicians. Downes Associates' client base is wide and varied. Since formation, the practice has worked with local authorities, semi-State organisations, institutional companies, private sector companies, private developers and international clients. The wide client base and the very different types of projects successfully completed reflect the varied nature of engineering demands placed on the skill and experience of the staff.

ENGINEERING ACTIVITIES

Civil & Structural.

PROJECT TYPES

Office building, Industrial Developments, Schools, Municipal Buildings, Residential Developments, Retail Developments, Data Centres, Temporary Works, Conservation and Historic, Healthcare.

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Terry Sheehan**, BE, MSc, CEng, FIEI, MIStructE, FConsEI

TOTAL EMPLOYEES

31

ABOUT THE FIRM

EirEng Consulting Engineers was formed by Terry Sheehan and Jeremy Lamb in 2011 to address the need for engineering services that concentrate on client value and the use of integrated design at reasonable cost. This is achieved through the extensive use of BIM on our projects. We are dedicated to providing our clients with tailor made solutions that provide the optimal combination of operational efficiency and whole life cost. We build strong and long-lasting relationships with our Clients and fellow professionals with whom we interact based on mutual respect and co-operation. We break problems down into clear and manageable components to ensure that all parties are involved. At EirEng we give the same care and attention to detail to a simple house extension as to a multi-million E-commerce automated facility. EirEng has offices in Dublin and operates in Ireland, the UK and the Middle East. Specialist projects outside of these locations are taken on an individual basis where our particular skills, knowledge or experience can bring our clients a competitive edge.

ENGINEERING ACTIVITIES

Civil Engineering, Structural Engineering, Environmental Engineering, Flooding Studies and Marine Structures, Sustainable Design, Temporary Works Design.

PROJECT TYPES

Commercial Buildings and Mixed Use Developments, Logistics and Retail Developments, E-Commerce and Data Centres, Healthcare, Conservation and Heritage, Educational Buildings at all Levels, Sports & Leisure, Hotels and Car Parks, Residential including House Extensions, Building and Site Repurposing, Civil Infrastructure and Masterplanning, Flooding and Environmental Studies.

ENVIRONMENTAL DESIGN PARTNERSHIP

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **James Fogarty**, CEng, FCIBSE, MCIarb/AccMed, MSLI, FConsEI

TOTAL EMPLOYEES

9

ABOUT THE FIRM

Environmental Design Partnership is a modern Building Services Engineering Consultancy practice operating for more than 25 years providing professional independent services across a broad range of commercial, industrial, leisure, retail, residential, educational, healthcare and energy consultancy sectors. The practice has grown steadily and has gained a reputation for providing innovative and cost effective quality design solutions.

Our dynamic but personal management provides a thorough understanding and focus on development, design and project management, thus ensuring energy efficiency, life cycle and cost competitiveness for all our developments.

Our highly qualified staff provide experienced, strong technical input and have the necessary expertise for a complete and integrated building services design, this combined with our in-house quality assurance system results in high client satisfaction on projects.

EDP has experience of and is committed to, providing clients with the highest level of design on projects and delivering the projects within budget and programme.

ENGINEERING ACTIVITIES

Mechanical and Electrical Engineering, Heating/Ventilating and Air-Conditioning, Green Technology, Energy Renewables, Industrial Project Management, Fire & Security Engineering, Services Cost Control, Sustainable Engineering Design & Modelling, BER Assessors, DEC Assessors, LEED Assessors, Cost Management & Control, Performance Evaluation/Commissioning.

PROJECT TYPES

Educational Buildings, Hospitals / Healthcare Buildings, Factories / Production, Offices / Commercial, IT Facilities / Communications, Pharmaceutical Clean & Sterile Rooms, Electronic Manufacturing Clean Rooms, Hotels Leisure Centres, Shopping & Centres, Sports Stadia Facilities, Security Installations, Protected Structures / Historical Buildings, Fire fighting & Detection, Automatic Smoke & Environmental Control, Feature & Flood Lighting, Conservation Lighting.

ETHOS ENGINEERING

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- **Susan Cormican**, BEng, MSc, MCIBSE, MIEI, FIHEEM, FConsEI
- **Paul Tighe**, BScEng(Hons), CEng, MCIBSE, MIEI, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEER

- **John Mulvey**, BEng, CEng, MCIBSE, MIEI, RConsEI
- **Gavin Murphy**, CEng, BE, MSc, MIEI, MCIBSE, RConsEI

TOTAL EMPLOYEES

150

ABOUT THE FIRM

Ethos Engineering is the largest M&E Consultancy in Ireland and an EMEA Leader in Data Centre design. Established in 2005, we currently employ 142 professionals across our Mechanical and Electrical Engineering, Sustainability, Urbanism, and Digital Consultancy teams. We have offices in Dublin (HQ) and Galway. Ethos is the Irish member of First Q, a network of 14 international MEP consultancies, comprising 3,500 MEP engineers and a turnover of €300m. The network was established to share best practices across borders and support each company operating internationally through localisation. Our vision is "to be the company people want to work for and with." The culture at Ethos is focused on attaining the highest standards in client delivery, innovation, technology, and progressive thinking while being a centre of excellence for talent development, support, and mentoring.

In 2021, we introduced a new competency model 'EPIC' to further support the development of our people. What we mean by this is we measure everything we do under our EPIC pillars, these are: (EXCELLENCE), we take pride in our quality work and projects delivered. We look after our people, creating opportunities and a path for their career development while creating the best place to work (PEOPLE). To us, it's innovate or die – we want a culture of diversity and inclusion to be the bedrock of how we will scale and bring value to our client's projects (INNOVATION). We are constantly developing relationships with external people – our clients, fellow design team members, and construction colleagues (CLIENTS). We continually produce designs that are detailed, innovative, practical, economical, socially responsible, and sustainable. In our 17 years of operation, we have delivered mechanical, electrical, and sustainable design services across a variety of sectors.

ENGINEERING ACTIVITIES

Building Services, Mechanical, Electrical, Design Management, Sustainability, Smart Buildings.

PROJECT TYPES

High Tech Data Centres, Commercial, Mixed-Use Development, Healthcare, Pharmaceutical, Education, Leisure, Hospitality, and Justice.

FAHEY O'RIORDAN CONSULTING ENGINEERS

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **John Fahey**, BSc(Eng), MPM, MIEI, CEng, FConsEI

TOTAL EMPLOYEES

3

ABOUT THE FIRM

The practice was established in 2009 and offers a comprehensive range of professional consultancy services in the areas of Mechanical & Electrical Engineering, Project Management and Construction Supervision. The practice has a successful track record in delivery of a wide range of projects across all sectors of the industry to both private and public sector clients.

ENGINEERING ACTIVITIES

Mechanical & Electrical, Heating Ventilation & Air Conditioning, Public Lighting, Value Engineering / M&E Cost Control, Project Management, PSDP Services.

PROJECT TYPES

Healthcare, Nursing Homes, Education, Schools, Commercial Offices, Industrial Facilities, Community Centres, Sports Centres, Hotel & Leisure, Retail / Mixed Use, Infrastructure / Business Parks, Public Realm / Urban Renewal, Residential, Condition Reports, Feasibility Studies, Water / Wastewater (M&E).

FALLON DESIGN

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Mark Fallon**, BEng (Hons) Building Services, CEng, DipPM, FConsEI

TOTAL EMPLOYEES

4

ABOUT THE FIRM

Fallon Design is primarily engaged in providing M&E consulting engineering services. Main engineering activities are M&E, Fire Safety, Sustainability, Passive House Design, Water Conservation, Assigned Certifier for Residential, Mixed developments, Commercial, and Industrial projects.

ENGINEERING ACTIVITIES

M&E, Fire Safety, Sustainability, Passive House Design, Water Conservation, Assigned Certifier.

PROJECT TYPES

Residential, Mixed developments, Commercial, Industrial.

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Jose Poveda**, BSc(Eng), CEng, FConsEI
- **Mark Gill**, BSc(Eng), CEng, FConsEI

TOTAL EMPLOYEES

5

ABOUT THE FIRM

Fearon O'Neill Rooney has over 40 years' experience operating as Civil and Structural Consulting Engineers in the construction industry. The practice was established in 1970 by Dermot Fearon. John Rooney and Terry O'Neill subsequently joined the practice in 1973 and 1976 respectively. Jose Poveda joined the firm in 1992 and Mark Gill in 1997 and both became partners in the practice in 2010 following Terry O'Neill's retirement from the office. Terry is currently engaged as a consultant to the practice. Since the firm commenced practice in 1970, personal service has been an important and consistent objective. It has been our policy to employ a compact staff of high calibre with a commitment to self-development and a facility for working as a team. The practice provides an engineering consultancy service to a wide range of clients principally in the fields of civil and structural engineering. Our client base extends from private individuals to national and international private and public institutions. Although the majority of our work is in structural engineering, Fearon O'Neill Rooney has also offered a wide range of civil engineering services over the last 40 years. Fearon O'Neill Rooney encourages where possible the use of construction techniques that are environmentally responsible and resource efficient, from the initial scheme design stage of each project and throughout the life of the building. Our design approach is based on a commitment to providing the very best civil and structural design service that meets the client's key requirements in terms of programme, cost and quality.

ENGINEERING ACTIVITIES

Civil and Structural Engineering, Project Management, Value Engineering, Sustainable Design, Conservation and Restoration, Expert Witness Services.

PROJECT TYPES

Hospitals, Apartments, Industrial Developments, Office Developments, Brewing Associated Work, Retail Parks/Shopping Centre, Restoration/Conservation, Schools, Churches/Cathedrals, Bridges and Bridge Refurbishment, Housing Developments, Planning Rezoning, Drainage Schemes.

FEHILY TIMONEY & COMPANY

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Eamon Timoney**, BE, CEng, FIEI, MICE, MCIWEM, FConsEI
- **Sinéad Timoney**, BE Civil, HDip HSWW, CEng MIEI, FConsEI

TOTAL EMPLOYEES

84

ABOUT THE FIRM

Established in 1990, Fehily Timoney and Company has grown to be one of the largest Irish owned civil and environmental engineering, scientific and planning consultancy.

Specialising in the delivery of complex projects for our global clients, FT offers a total project management solution, acting as consultants from initial project planning and feasibility through to detailed design, construction supervision, commissioning and handover.

ENGINEERING ACTIVITIES

Circular Economy, Civil Infrastructure, Environmental Science, Energy & Planning, Waste & Resource Management, Geotechnical Engineering, Urban Development, and Project Supervisor Design Process (PSDP).

PROJECT TYPES

CIRCULAR ECONOMY, WASTE & RESOURCE MANAGEMENT, ENVIRONMENTAL SCIENCE: Surveys and assessments, Noise and Vibration assessments, Environmental Monitoring, Modelling and Assessment (surface and groundwater, dust and particles, landfill gas etc.), Contaminated Land, Baseline Emission Inventories, Climate Mitigation, Climate Action Plans, Sustainable Assessments, Public Realm & GIS. Waste Facilities – civic amenities, waste transfer facilities, material recovery facilities, Historic Landfills, Leachate and Landfill Gas Management, Land Reuse Assessment, Wetland Specialists, Waste Characterisation, Planning Applications, EIARs, Anaerobic Digestion, Biomethane, Composting.

ENERGY AND PLANNING: Renewable Energy; Onshore and Offshore Wind energy developments; Utility scale Solar energy developments; electrical grid infrastructure including, HV and MV substations, battery storage and, ancillary grid infrastructure. Urban Development including Residential and Commercial Development.

INFRASTRUCTURE: Roads and Utility Infrastructure, Geotechnical Engineering, Stability Assessments, Bridges, Structures, Drainage, Greenways, Blueways, Industrial, Pharma, Bund and Lagoon Testing and Certification, Transportation (Bus, Rail, Metro), Residential, Ancillary Civil Works, Marine and Coastal and Wind Farms.

FITZSIMONS DOYLE & ASSOCIATES

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Andrew Fitzsimons**, BScEng, DipEng, DipGeotech, Eur Ing, MCI Arb, CEng, MIEI, FConsEI
- **John Doyle**, Eur Ing, CEng, MIEI, DipProjMan, FConsEI

TOTAL EMPLOYEES

10

ABOUT THE FIRM

This firm was founded in 1979 in Dublin. It provides services in civil/structural consulting engineering, project management and litigation engineering. It has extensive experience in the design of Industrial, Commercial, Residential and Institutional buildings. The practice has a wide base of clients including national, multinational, industrialists, and private clients, financial and public institutions.

ENGINEERING ACTIVITIES

Structural, Project Management, Civil, Fire, Litigation, Conservation, Assigned Certifier, Health and Safety, PSDP.

PROJECT TYPES

Academic, student accommodation, medical, state bodies, commercial, housing, rapid build, civil infrastructure, specialist structural design, energy and renewables.

FRANK FOX & ASSOCIATES

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Frank Fox**, CEng, Eur Ing, FIEI, MIStructE, FConsEI

TOTAL EMPLOYEES

5

ABOUT THE FIRM

The firm was founded in 1982, initially providing a civil / structural consultancy service for the design, procurement and management of industrial and commercial projects in the south east. It expanded steadily to work on a variety of projects nationwide, the UK and also into Europe. Its current client base covers a diversity of business and community interests.

ENGINEERING ACTIVITIES

Structural, Civil, Project Management, Health & Safety.

PROJECT TYPES

Airport, Pharmaceutical, Industrial, Retail & Commercial, Banks, Schools, Healthcare, Site Remediation, Residential Development, Sports and Leisure, Hotels.

GARLAND

Garland House, 28-30 Rathmines Park,
Dublin 6. D06 F8Y1

T: +353 (0)1 496 4322

E: info@garlandconsultancy.com

W: www.garlandconsultancy.com

OFFICES

Riverfront, Howley's Quay, Limerick. V94 W3F1
T: +353 (0)61 319 708

Suite 11B, The Atrium, Maritana Gate, Canada Street,
Waterford. X91 WR40
T: +353 (0)51 876 511

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Kevin Rudden**, BScEng, DipEng, DLS, CEng, FIEI, Eur Ing, FConsEI
- **Brian Kavanagh**, BE, DipProjMgmt, CEng, FIEI, Eur Ing, FConsEI
- **Caimin Jones**, BE, CEng, FIEI, Eur Ing, FConsEI
- **Brian Lahiff**, BE, PGradDip, CEng, MIEI, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEERS

- **Tommy Morey**, BE, CEng, MIEI, RConsEI
- **Simon Dunne**, BEng, MStructE, MIEI, CEng, RConsEI

TOTAL EMPLOYEES

45

ABOUT THE FIRM

Founded in 1937, Garland is an international consulting engineering firm that has worked in over 30 countries worldwide. We provide a full range of civil and structural consulting engineering services, starting from feasibility study to detailed design and construction administration. We also offer specialist services in construction safety management, project management and planning, social and economic development. Our highly experienced teams are renowned for prestigious work within the healthcare, educational, infrastructure, commercial and residential sector.

ENGINEERING ACTIVITIES

Structural, Industrial, Planning, Civil, Project Management, Coastal Protection, Refurbishment, Environmental, Marine, Pollution Traffic, Geotechnical, Fire, Health and Safety, Assigned Certifier, Project Supervisor Design Process (PSDP).

PROJECT TYPES

Airport, Civil, Coastal Protection, Commercial, Educational, Healthcare, Hotels, Industrial, Public, Residential, Private Dwellings, Refurbishment, Retail, Sports and Leisure.

GDCL CONSULTING ENGINEERS LTD

Scope House, Whitehall Road West, Perrystown,
Dublin 12. D12 K8PP

T: +353 (0)1 563 8342

E: info@gdalyconsulting.com

W: www.gdalyconsulting.com

OFFICES

75 Shelton Street, Covent Garden, London WC2H 9JQ
T: +44 (0)20 3286 1540

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Gregory Daly**, MBA, BScEng, DipEng, Dip Highway & Geotech Eng, CEng, MStructE, MIEI, DipArb, MCIArb, FConsEI

TOTAL EMPLOYEES

12

ABOUT THE FIRM

GDCL Consulting Engineers provide of civil / structural engineering and project management services delivery to a wide range of local and international clients both in the private and public sectors. GDCL Consulting Engineers have a proven track record of successful delivery over 20 18 years across a wide variety of construction projects including Commercial, Residential/Housing, Process/Pharmaceutical, Leisure /Process, Refurbishment and Renewables. We have the capability to produce fully integrated BIM Models using the latest software / drawing office technology, including Revit.

ENGINEERING ACTIVITIES

Structural Engineering Design: New build and Refurbishment Projects - all materials including reinforced concrete, structural steelwork, precast concrete, masonry, timber. Structural survey, Temporary Works Design, Structural Strengthening, Blast Resisting Design, Seismic Engineering, Design for Vibration.

Civil Engineering Design: Surface Water Drainage, Foul Drainage, Wastewater Engineering, GMP Containment, Roads, Site Specific Flood Risk Assessment, Traffic Engineering, Earthworks Control, Geotechnical Engineering, Coastal Protection.

Project Management: Design Team Management, Client Representation Contract Administration, Conceptual Design Studies, Feasibility Studies, Code Compliance Specialists, Building Control Regulations, (BCAR / Assigned Certifier). Dispute Resolution, Arbitration (UNCITRAL Model Law), Conciliation, Mediation, Adjudication, Expert Witness, Claims Consultancy.

PROJECT TYPES

Our projects include, Commercial, Residential/Housing, Process/Pharmaceutical, Leisure /Process and Renewables.

GORDON WHITE CONSULTING ENGINEERS

1st Floor, 8 Riverwalk, Lake Drive, Citywest Campus, Dublin 24, D24 V50F

T: +353 (0)1 479 6396

E: mail@gwce.ie

W: www.gwce.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Gordon White**, BA, BAI, HDipEnvEng, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

2

ABOUT THE FIRM

Gordon White Consulting Engineers were established in May 2016 and are based in modern offices at Riverwalk Plaza in the heart of Citywest Business Campus. Gordon White is a Chartered Engineer with over 25 years' experience in Civil Engineering design for residential and commercial developments.

ENGINEERING ACTIVITIES

Civil Engineering Design for Residential and Commercial Developments, Sustainable Drainage (SuDS) Design, Civil Engineering Design for Public Realm, Parks & Sports Pitches, Legal Mapping, Topographic surveys and Digital Terrain Models, PSDP services

PROJECT TYPES

Residential Developments from a single house or extension to developments of many hundreds of houses, Commercial Developments from fit-outs to multi-storey office developments, Parks and Pitches, Legal Maps Declarations of Identity Boundary surveys, Water and Wastewater Treatment Plants

HANLEY PEPPER

Owenstown House, Fosters Avenue, Blackrock, Co. Dublin. A94 N6D8

T: +353 (0)1 283 2967

E: info@hanleypepper.ie

W: www.hanleypepper.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Joseph Ryan**, BScEng, DipEng, CEng, MStructE, MIEI, FConsEI
- **Kevin Pepper**, CEng, Eur Ing, MIEI, MStruct, FConsEI
- **Michael Jackson**, BScEng, DipEng, CEng, MStructE, MIEI, FConsEI

TOTAL EMPLOYEES

18

ABOUT THE FIRM

Established in 1987 as a specialist Consultancy in Civil & Structural Engineering. Provide service to Public and Private clients. Projects completed for National and International organisations in Ireland and throughout Europe.

ENGINEERING ACTIVITIES

Structural, Civil, Project Management, Conservation, Project Feasibility Studies, Site Due Diligence Investigations, Sustainability, Legal Representation, Project Supervisor Design Process, Assigned and Ancillary Certification.

PROJECT TYPES

Data Centres, Healthcare, Hotels, Retail, Corporate Office Developments, Housing, Industrial, Sports & Recreation, Educational, Penal, Roads, Drainage, Bridges, Military Defence, Conservation, Masterplanning, Temporary Works Design, Expert Reports, Site Investigations.

HEAVEY KENNY ASSOCIATES

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Tuam Road, Galway. H91 E9KN

T: +353 (0)91 566 004 / +353 (0)91 566 004

E: admin@heaveykennyassociates.ie

W: www.heaveykennyassociates.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Edward Heavey**, CEng, MCIBSE, MIEI, AMEI, FConsEI
- **John Carr**, CEng, MCIBSE, MIEI, FConsEI

TOTAL EMPLOYEES

4

ABOUT THE FIRM

Founded in 1989. The company provides mechanical and electrical building services design, monitoring and project management to a high level in the private and public sectors.

ENGINEERING ACTIVITIES

Mechanical and Electrical, Heating, Ventilation, Air-Conditioning, Sustainable Energy, Project Management, Cost Control.

PROJECT TYPES

Hospitals, Colleges, Retail, Hotels, Shopping Centre, Office Development, Industrial Developments, Schools, Nursing Homes, Heritage Buildings, Churches.

HENDRICK RYAN + ASSOCIATES

10 Priory Hall, Stillorgan, Co. Dublin. A94 K735

T: +353 (0)1 283 4866

E: info@hra.ie

W: www.hra.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Peter Ryan**, BA, BAI, CEng, FIEI, MIStructE, MICE, FConsEI

TOTAL EMPLOYEES

6

ABOUT THE FIRM

Formerly Brian Hendrick + Associates, which was established in 1988.

ENGINEERING ACTIVITIES

Structural, Civil, Project Management, Conservation, Project Feasibility Studies, Building Assessment and Remediation, Loss Assessing and Loss Adjusting Investigations, Expert Witness, Legal Representation, Project Supervisor Design Process, Assigned and Ancillary Certification.

PROJECT TYPES

Commercial Developments, Housing Developments, Hotels, Site Development, Industrial Buildings, Apartments, Educational & Health, Leisure, Restoration & Refurbishment, Multi-Storey Car Parks, Structural Assessments, Forensic Engineering.

HOMAN O'BRIEN ASSOCIATES

89 Booterstown Avenue, Blackrock,
Co. Dublin. A94 P2C2

T: +353 (0)1 205 6300

E: info@homanobrien.ie

W: www.homanobrien.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Brian Homan**, CEng, BScEng(Hons), DipProjMgt, MIEI, MCIBSE, FConsEI
- **Simon O'Brien**, CEng, BScEng(Hons), MA, Eur Ing, MIEI, MCIBSE, FConsEI
- **Gerard Keating**, C&G, FTC, CEng, FCIBSE, FIHEEM, MIEI, FConsEI

TOTAL EMPLOYEES

28

ABOUT THE FIRM

Homan O'Brien are a leading Irish Consulting Engineering Practice specialising in the design and management of mechanical, electrical and lift services to all building types. The company has grown through 60 years of experience in the building industry by providing a quality professional service to all projects and clients on the domestic and international market. We have an ever expanding and dedicated workforce of highly qualified engineers available to undertake new projects.

Homan O'Brien implement an integrated Quality, Health & Safety and Environmental Management System. Our management systems are registered with NSAI to the following standards;

- ISO 9001:2015 Quality Management System
- ISO 14001:2015 Environmental Management System
- ISO 45001:2018 Occupational H&S Management System.

We are affiliated to a number of professional bodies including Engineers Ireland, Association of Consulting Engineers of Ireland, Chartered Institution of Building Services Engineers, American Society of Heating, Refrigeration and Air-Conditioning Engineers, Institute of Healthcare Engineers and Estate Managers and the European Federation of National Engineering Associations.

ENGINEERING ACTIVITIES

HVAC, Low Energy Building Design, Building Dynamic Simulation, 3D Building Information Modelling (BIM), BCAR Inspection / Reporting, Vertical Transport Analysis and Design, Building Energy Audits, Expert Witness, Due Diligence.

PROJECT TYPES

Education, Hospitals / Healthcare, Offices Developments / Fit Outs, Hotels, Residential, Mixed-use Developments, Commercial, Industrial, Shopping Centres, Historic Refurbishment, Master planning.

HORGANLYNCH CONSULTING ENGINEERS (HLCE LIMITED)

Tellengana, Blackrock Road, Cork. T12 HP7R

T: +353 (0)21 493 6100

E: cork@horganlynch.ie

W: www.horganlynch.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Karel Murphy**, BEng, CEng, MIStructE, MIEI, FConsEI
- **Niall Fitzgerald**, BE CEng MIEI, FConsEI

TOTAL EMPLOYEES

17

ABOUT THE FIRM

Established in Cork 1969. Dublin office opened in 1973. HLCE Limited has a certified Quality management system - ISO 9001 : 2015.

ENGINEERING ACTIVITIES

Civil, Structural, Project Management.

PROJECT TYPES

Stadia Sports & Recreation, Pharmaceutical Industry, Office Developments, Museums, Conservation, Art Galleries, Education Facilities, Healthcare, Medical Devices, High Density Housing, Site Development, Commercial Mixed Use, Residential.

HUGH MUNRO & CO LTD

Alexandra House, Jetty Road, Dublin Port,
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T: +353 (0)1 855 4387

E: peter.murphy@hughmunro.ie

W: www.hughmunro.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Ciaran Wallace**, BE, MIE, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

8

ABOUT THE FIRM

Hugh Munro & Co. Ltd is a specialist engineering consultancy, established in 1976, that delivers a wide range of services in the petrochemical and energy sectors. The time we have been working in these sectors has enabled us to build up a vast experience and knowledge of them, and has given us a well-established profile. We use our local knowledge of the Irish market, together with our proximity to and contacts with, the significant parties, to get things done. At Hugh Munro & Co. Ltd. we develop a personal understanding of our clients' needs and tailor our service delivery to match those requirements.

Hugh Munro & Co. Ltd have a commitment to quality, environmental management and health & safety in the management and design of projects for which we were awarded

- Quality Assurance Certificate under I.S. EN ISO 9001:2015 from the National Standards Authority for design and project management from client's brief to final documentation.
- Environmental Management Certificate under I.S. EN ISO 14001:2015 from the National Standards Authority for promoting environmental management throughout our business to continually improve efficiency of our operations
- Occupational Health & Safety ISO 45001:2018 from the National Standards Authority for providing services which reflect our earnest attention to the provision of design Safety, Health & Welfare

These Certifications acknowledged the formalisation of procedures, which are an integral part of Hugh Munro & Co's commitment to the achievement of excellence and our policy towards Quality, Safety, Health, Welfare and environmental management. The maintenance of which is assured not only through regular inspections by the NSAI but also through ongoing in-house audits conducted by Hugh Munro & Co's quality manager.

ENGINEERING ACTIVITIES

Process, Mechanical, Electrical, Automation, Civil & Structural, Front End Engineering Studies, Planning, Project management, Heating, Ventilating & Air-Conditioning, Environmental.

PROJECT TYPES

Petroleum Depots & Marine Terminals, Automated Road Loading Facility, New Product Tanks/ Double Containment, Automation of Terminals, Upgrading of Terminals, Aviation Fuel Depot & Hydrant System, Fire-Fighting Systems – Oil Jetty/Terminals, Heavy-Engineering Factory Services, Bitumen Plant, Light Activity Factory – Services, Oil Pipelines.

JAE ENGINEERING LTD

Guinness Enterprise Centre, Taylor's Lane,
Dublin 8. D08 WY02

T: +353 (0)87 257 1800 / +353 (0)86 788 0971

E: jennis@jaeeng.com

W: www.jaeengineering.com

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Aislinn Tate**, CEng, MIEI, MCIBSE, BScEng (Hons), FConsEI
- **Joseph Ennis**, CEng, FCIBSE, FIEI, FConsEI

TOTAL EMPLOYEES

2

ABOUT THE FIRM

JAE Engineering Ltd, is a specialist Consulting Engineering Practice offering unique engineering solutions to the construction, manufacturing industry and energy sector. The company was formed early in 2012 and has established a reputation relating to specialist engineering solutions for building design and building services. The practice has been set up as a specialist engineering enterprise by Joseph Ennis and Aislinn Tate designed to provide strategic advice to clients. They are a solution driven company, who strive to achieve their client's goals with integrity through their knowledge of engineering and construction.

ENGINEERING ACTIVITIES

Building services strategic design, Due Diligence / building surveys, Value engineering, Peer reviews of Building Services Documentation, Client Liaison to design and construction teams, LEED, BREEAM & WELL Engineering Expertise and assistance in the road mapping to certification, Energy and sustainability, Building services insurance claims advice, Technical advisor for clients, Dispute resolution- engineering systems, Project audits, Building services design services.

PROJECT TYPES

Commercial, Industrial & Process, Business & Retail, Power and Energy Projects, Health & Laboratories.

J.B. BARRY & PARTNERS LTD

Classon House, Dundrum Business Park,
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T: +353 (0)1 485 1400

E: info@jbbarry.ie

W: www.jbbarry.ie

OFFICES:

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T: +353 (0)21 452 4418

Unit 14C, N5 Business Park, Moneen Road, Castlebar, Co. Mayo.
F23 E283
T: +353 (0)94 903 8013

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Liam Prendiville**, BE, Dip Project Management, Dip Highways and Geotechnical Engineering, CEng, FIEI, FConsEI
- **Jerome O'Brien**, BE, Eur Ing, CEng, FIEI, MStructE, FConsEI
- **Anne Marie Conibear**, BE, CEng, MICE, FIEI, Masters in Business Practice, FConsEI
- **Maurice O'Donoghue**, BE, Eur Ing, CEng, FIEI, Dip PM, FConsEI
- **Eamon Daly**, BE, MEngSc, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

195

ABOUT THE FIRM

Since our establishment in April 1959, J.B. Barry and Partners Limited has designed innovative and sustainable projects in water, transportation and structural engineering. As well as design excellence, our projects take into account the environment, planning risk, sustainability principles, energy optimisation and management, health and safety and value engineering. Our clients include Government Departments, Utility Companies, Contractors, Developers, Private Clients as well as some International Financial Institutions.

Barry International Ltd was established in 1993 and Barry Transportation Ltd (formerly Halcrow Barry Ltd and CH2M Barry Ltd.) was established in 2000. J.B. Barry and Partners is also a parent firm of BeMRA Engineering Limited.

ENGINEERING ACTIVITIES

Civil, Structural, Process, Mechanical, Electrical, Traffic, Transportation, Environmental and Geotechnical Engineering; Quantity surveying, Cost Estimates and Cost Control; Planning, Licencing and EIAR; Project and Programme Management; Health and Safety/PSDP; Contract Preparation, Administration and Dispute Resolution.

PROJECT TYPES

Water Supply Networks, Water Treatment Plants, Wastewater Collection Systems, Wastewater Treatment Works, Sludge Treatment, Sea Outfalls, Renewables, Solar/PV & Windfarms, Flood Risk Assessments, Flood Relief Schemes, Tunnels, Roads, Highways, Bridges and Culverts, Motorway Service Areas, Traffic, Rail, Rapid Transit, Active travel/Greenways, Road Safety Audits, Commercial, Institutional, Industrial and Residential Buildings and site development works.

JENNINGS O'DONOVAN & PARTNERS LTD

Head Office: Finisklin Business Park, Sligo. F91 RHH9

T: +353 (0)71 916 1416

E: info@jodireland.com

W: www.jodireland.com

OFFICES

Dublin, Castlebar

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Conor McCarthy**, BE, PE, Eur Ing, CEng, FIEI, DIP PM, FConsEI
- **David Kiely**, BE, MSc, FIEI, CEng, MICE, Eur Ing, FConsEI
- **Joseph Healy**, BEng, DipWEng, CEng, Eur Ing, FIEI, TechIOSH, FConsEI
- **Audrey Phelan**, BE, MEngSc, CEng, FConsEI
- **John McElvaney**, BSc (Eng), DipStructEng, PG Dip PM, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

45

ABOUT THE FIRM

Established in 1950, the business focus areas of the company are Ireland, UK and the EU Pre Accession Countries. The company is ISO 9001, ISO 14001 and ISO 45001 accredited and certified as an accredited Employer by Engineers Ireland for the CPD Programme.

ENGINEERING ACTIVITIES

Civil, Structural, Commercial Development, Environmental, Water Supply, Renewable Energy, Pollution Control, Traffic, Wastewater, Project Management, Architectural, Road Design, Health & Safety, Environmental Impact Statements, Planning Applications/ Planning Compliance, Assigned Certifier, Project Supervisor Design Process.

PROJECT TYPES

Water Supply Schemes, Sewerage Schemes, Drainage Schemes, Factories (Project & Structural), Retail Parks, Warehousing, Offices (Civil & Structural), Leisure Amenities, Wind Energy Projects, Solar Energy Projects, Hospitals (Civil & Structural), Schools, Third Level Colleges, Hotel & Leisure Facilities, Housing Services, Flood Studies, Aquaculture Projects and Road Design.

J.J. CAMPBELL & ASSOCIATES

Unit F1 Nutgrove Office Park, Rathfarnham,
Dublin 14. D14 A895

T: +353 (0)1 298 0538

E: info@jjc.ie

W: www.jjc.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **John J. Campbell**, BE, CEng, MIEI, PEng Canada, FConsEI

TOTAL EMPLOYEES

9

ABOUT THE FIRM

J.J. Campbell & Associates was established in 1995.

ENGINEERING ACTIVITIES

Civil, Structural and Ocean Energy.

PROJECT TYPES

Office/Retail/Housing/Apartments/Hotels, Structural Alterations to Old Buildings/, Protected Structures, Specialized Glazing, Gantry/Cranes/Lifting gear, Pyrite Investigations, Analysis of Sewer Network Condition, Earthquake Analysis, Marine/Ocean Energy, Environment, Health & Safety.

JODA ENGINEERING CONSULTANTS

Ballycurreen House, Ballycurreen, Cork, T12 P4AY

T: +353 (0)21 454 4244

E: engineers@joda.ie

W: www.joda.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Jerome O'Donovan**, BE, CEng, MEngSc, MIEI, MICE, MStructE, FConsEI
- **Paul Murphy**, BE, MSc, CEng, MIEI, MStructE, HDipMM, FConsEI

TOTAL EMPLOYEES

16

ABOUT THE FIRM

JODA Engineering Consultants is a multidisciplinary practice providing engineering consultancy services related to buildings and structures, site development, infrastructure services.

The practice was established in 1961 and initially provided civil/structural consultancy. In 1972 the firm included mechanical and electrical building services and later expanded to include project management for industrial and other projects. The practice became a limited company in 1995.

ENGINEERING ACTIVITIES

Civil, Structural, Mechanical, Electrical, Project Management, Geotechnical.

PROJECT TYPES

Industrial Projects, Office Developments, Retail Developments, Hospitals, Hotels, Educational Buildings, Institutional Buildings, Bridges, Road Structures, Marine Structures, Residential Developments, Leisure Projects, Remedial works, Fire damage and Flood damage assessment and remediation.

J.V. TIERNEY & COMPANY LTD

The Tannery, 53 - 56 Cork Street, Dublin 8. D08 P92R
T: +353 (0)1 421 4900
E: mail@jvtierney.ie
W: www.jvtierney.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Joe Lee**, DipEng, CEng, FCIBSE MIEI, MASHRAE, FConsEI
- **Stephen Walsh**, CEng, BEngTech, MIEI, FIHEEM, FConsEI

TOTAL EMPLOYEES

41

ABOUT THE FIRM

J.V. Tierney & Co. was established in 1948 and is the market leader in Consulting Engineering Design in the field of Mechanical, Electrical and Sustainable Engineering in the Built Environment. Our specialist subsidiary, JVTE, offers Environmental and Sustainable Design Solutions, Daylight/Sunlight Analysis, Net Zero Carbon Solutions and Energy Efficient Design (EED) Analysis. We are certified Home Performance Index (HPI) Assessors, Building Energy Rating (BER) Assessors and accredited BREEAM Assessors and LEED Commissioning Agents (CxA) with a number of our projects achieving the international environmental standards of BREEAM 'Excellent' and LEED 'Platinum' accreditation. The Company has become synonymous with the highest quality design concepts and is accredited to the following NSAI Management Systems – I.S. EN ISO 9001:2015 Quality Standard, I.S. EN 14001:2015 Environmental Standard and OHSAS 45001:2018 Occupational Health & Safety Standard.

ENGINEERING ACTIVITIES

Mechanical & Electrical and Sustainable Engineering Design, Daylight/Sunlight Analysis, Net Zero Carbon Solutions, Energy Efficient Design (EED) Analysis, Comfort Analysis / Natural Ventilation with Computer Modelling, BREEAM Assessors, BER Assessors, Home Performance Index (HPI) Assessors, LEED Assessors, Heating / Ventilating and Air-Conditioning, Medical Gas Design, Environmental, Project Management, Fire & Security Engineering, ICT & Communication Systems, Vertical Transportation Engineering, Services Cost Control, 3D Building Information Modelling (BIM), BCAR Inspection / Reporting.

PROJECT TYPES

Educational Buildings, Hospitals / Healthcare Buildings, Offices / Commercial / Light Industrial, Residential, Hotels & Leisure, Retail, Exhibition Spaces, Sports Stadia Facilities, Institutions / Secure Centres, Courtroom Facilities, Protected Structures / Historical Buildings.

JWHA

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OFFICES

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Joseph W. Hogan**, CEng, FCIBSE, MIEI, MASHRAE, MIPM, ACIArbl, FConsEI

TOTAL EMPLOYEES

3

ABOUT THE FIRM

J.W.H.A. Consulting Engineers offers complete design and project construction management in the field of Project Management, Procurement, Structural and Mechanical and Electrical Services. The practice has been in existence since 1980 and has completed numerous prestigious projects. Working from offices in Dublin and Cork, we serve a large base in all client sectors. The practice is Quality Assured to ISO 9001.

ENGINEERING ACTIVITIES

Building Services, Project Management, Mechanical, Electrical, Structural, Civil, BER, Pollution Control, Noise Assessment, Insurance Claims, Legal Reports, Personal Injuries Investigations, Mediation, Expert Witness, Loss Assessment, Traffic Accidents, Information Technology, Lighting Levels, Electronic, Energy and Power, Energy Audits, Health and Safety, Project Supervisor Design Process (PSDP).

PROJECT TYPES

Business & Retail Units, Commercial Development, Churches/ Cathedrals, Hospitals/Healthcare, Industrial Developments, Leisure Developments, Residential Developments, Educational, Office developments, Heritage, Hotels, Nursing Homes.

KAVANAGH MANSFIELD & PARTNERS

37 Heather Road, Sandyford Industrial Estate,
Dublin 18. D18 R9T3

T: +353 (0)1 660 6966

E: kmp@kmp.ie

W: www.kmp.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **James Mansfield**, CEng, BE, FIEI, MStructE, FConsEI
- **Niall Clarke**, BSc, DipEng, CEng, MIEI, MStructE, FConsEI

TOTAL EMPLOYEES

10

ABOUT THE FIRM

Kavanagh Mansfield & Partners has a broad base of experience providing completely independent Structural and Civil Engineering professional advice to public sector and private sector clients. The practice has evolved over the last 30 years and is highly committed to working towards design excellence allied to cost effectiveness. Kavanagh Mansfield & Partners have been involved closely in the development of standards for the industry in fields such as code development and health & safety regulations. Kavanagh Mansfield & Partners is the trading name of Piconsult Ltd.

ENGINEERING ACTIVITIES

Civil and Structural.

PROJECT TYPES

Factories & Warehousing, Hospitals & Health Care, Sports Complex, Artificial Playing Surfaces, Office Developments, Schools & Colleges, Housing & Apartments, Estate Development, Building Restoration, Protected & Heritage Structures, Telecommunication Buildings, Legal Work, Pyrite Inspections, Research and Development.

KILGALLEN & PARTNERS CONSULTING ENGINEERS LTD

Kylekiproe, Well Road, Portlaoise, Co. Laois.
R32 P 668

T: +353 (0)57 866 2860

E: info@kilgallen.ie

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OFFICES

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T: +353 (0)56 770 1090

4th Floor, The Pinnacle, 160 Midsummer Boulevard, Milton Keynes, Buckinghamshire MK9 1FF

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Morgan Kilgallen**, BE, CEng, Eur Ing, FIEI, FCI Arb, FConsEI

TOTAL EMPLOYEES

17

ABOUT THE FIRM

Founded in 1998, Kilgallen and Partners specialise in the design and management of building and civil engineering projects including road schemes, flood relief schemes, renewable energy projects and buildings for the commercial, retail, educational, residential, pharmaceutical and manufacturing markets. Our Clients are drawn from across the Public and Private Sectors. The company is CPD accredited by Engineers Ireland and is ISO 9001 accredited by NSAI. Operating out of offices based in Portlaoise and Kilkenny and with a sister company in the UK, we have a proven and established track record of successful delivery from concept stage through to project handover.

ENGINEERING ACTIVITIES

Civil, Structural, Roads, Traffic Impact Assessments and Mobility Plans, Design of Temporary Traffic Management Systems, Flood Studies & Flood Risk Assessments, Assigned Certifier, Project Supervisor Design Process (PSDP), Geotechnical Engineering, Planning, Site Development, Building Assessment and Refurbishment.

PROJECT TYPES

Public Sector (Roads & Associated Infrastructure), Active Travel, Education, Drainage, Flood Risk Assessments, Flood Mitigation), Design & Build Projects, Temporary Works, Renewable Energy, Pharmaceutical, Manufacturing, Residential, Commercial, Industrial, Office, Leisure, Heritage, Conservation & Refurbishment, Industrial and Business Parks, Transport Depots.

KILLIAN CONSULTING ENGINEERS

Brideswell Street, Dublin Road, Athlone,
Co. Westmeath.

T: +353 (0)90647 7261

E: info@jkillian.ie

W: www.jkillian.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **John Killian**, BE, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

3

ABOUT THE FIRM

Killian Consulting Engineers was established in 2001, The company provides Structural and Civil engineering services to a wide range of clients throughout Ireland. The firm delivers design, project management and construction supervision services to a range of clients in the industrial, commercial and residential sectors.

ENGINEERING ACTIVITIES

Civil, Structural, Project Management, Assigner Certifier, Project Supervisor Design Process.

PROJECT TYPES

Industrial, Commercial, Medical Devices, Residential.

LANGAN CONSULTING ENGINEERS

Leeson Enterprise Centre, Altamont Street, Westport,
Co. Mayo. F28 ET85

T: +353 (0)98 68961

E: info@langaneng.ie

W: www.langaneng.ie

OFFICES

Galway Technology Centre, Mervue Business Park, Mervue,
Galway. H91 D932

T: +353 (0)91 396 335

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **James Langan**, BE, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

10

ABOUT THE FIRM

Langan Consulting Engineers (LCE) is a specialist civil, structural and marine design consultancy. We have a proven track record in the delivery of civil infrastructure, marine, energy projects in Ireland and the UK. We provide efficient, effective and pragmatic engineering design solutions.

ENGINEERING ACTIVITIES

Structural, Civil, Marine & Coastal, Hydrological/ Hydrogeological, Flood Risk Assessment, Drainage and Water Services, Geotechnical, BIM, Contractor design including Temporary Works Design and Design checking/verification.

PROJECT TYPES

Marine (Ports, Harbours & Coastal), Energy (Oil & Gas, Renewables), Flood Management and Alleviation, Onshore Pipelines, Subsea Pipelines and Marine Outfalls, Drainage Works, Roads, Residential and Commercial Developments, Transport, Education, Healthcare, Aviation.

LED (LYNCH ENGINEERING DESIGN)

22 French Furze Grove, Kildare Town,
Co. Kildare. R51 R993

T: +353 (0)86 806 5273

E: david@lynchengineeringdesign.com

W: www.lynchengineeringdesign.com

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

• **David Lynch**, BSc(Eng), DipEng, CEng, PGradDip(Fire Safety), FConsEI

TOTAL EMPLOYEES

2

ABOUT THE FIRM

LED was established in 2013 by David Lynch, following two years site and 14 years design experience.

ENGINEERING ACTIVITIES

Civil & Structural.

PROJECT TYPES

Residential, Commercial, Retail, Local Authority, Insurance, Legal.

MALACHI CULLEN CONSULTING ENGINEERS

8 Centre Court, Blyry Business & Commercial Park,
Athlone, Co. Westmeath N37 A710

T: +353 (0)90 642 0364

E: info@mcullen.ie

W: www.mcullen.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

• **Pádraic Keena**, BA, BAI, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

5

ABOUT THE FIRM

Malachi Cullen has been in practice as a consulting engineer since 1970. Malachi Cullen and partners was formed in 1986 from the well established branch office of Stanislaus Kenny and Partners, Athlone, founded by Malachi Cullen in 1971. Having merged with the international multi-disciplinary consultancy White Young Green in 2007, the company was subsequently re-established as an independent entity in 2010 under the new name of Malachi Cullen Consulting Engineers Ltd (MCCE). MCCE continues its long tradition of providing professional, civil, structural and environmental engineering as well as a project management service in the midlands.

ENGINEERING ACTIVITIES

Civil, Structural, Environmental, Project Management, Health and Safety, Project Supervisor Design Process (PSDP).

PROJECT TYPES

Industrial and commercial developments, Educational - primary / secondary / third level institutions, Medical / primary care, Residential developments, Hotel and leisure facilities, Golf clubs, Churches, Libraries, Public amenities, Site development works, Refurbishments, Remedial works, Conservation, Temporary works design, Conditional surveys, Fire safety engineering.

MALACHY WALSH AND PARTNERS (MWP)

Park House, Mahon Technology Park, Bessboro Road, Blackrock, Cork, T12 X251

T: +353 (0)21 453 6400

E: info@mwp.ie

W: www.mwp.ie

OFFICES

Blennerville, Tralee, Co Kerry, V92 X2TK
T: +353 (0)66 712 3404

The Elm Suite, Loughmore Centre, Raheen Business Park, Limerick, V94 R578
T: +353 (0)61 480 164

2 Exchange Tower, 1-2 Harbour Exchange Square, London, E14 9GE, UK.
T: +44 (0)20 7253 0893

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Peter Fay**, BSc(Eng), Dip Struct Eng, C Eng, MIEI, MIStructE, FConsEI

TOTAL EMPLOYEES

140

ABOUT THE FIRM

The practice is a multi-disciplinary diversified engineering and environmental consultancy and was founded in 1967. It has expertise in Civil, Structural, Mechanical and Electrical Engineering, Environmental and Waste Management Engineering.

ENGINEERING ACTIVITIES

Building Structures: Civil Engineering works, Roads, New Bridges and Assessment of existing, Rehabilitation work to existing structures, Commercial. Industrial projects: Pharmaceutical, Harbour and Coastal Works; Housing/Apartments; Water Services; Fire Engineering; Transportation, Building Services - Mechanical & Electrical; Renewable Energy, EIA/EIS, SEA; Planning Policy & Legislation.

PROJECT TYPES

Pharmaceutical, Healthcare, Airport, Commercial, Bridges, Roads, Industrial, Waste Management, Wind Farms and Pumped Energy Storage, Sewerage Schemes, Schools/Colleges, Water Services, Sports Facilities, Transportation, Conservation.

MALONE O'REGAN

2B Richview Office Pk, Clonskeagh, Dublin 14, D14 XT57

T: +353 (0)1 260 2655

E: info@morce.ie

W: www.maloneoregan.ie

OFFICES

St Catherine's House, Catherine St, Waterford. X91 WYH4
T: +353 (0)51 876 855

Queensgate, 23 Dock Road, Galway, H91 CR33
T: +353 (0)91 531 069

88 Wood Street, London, EC2V 7RS, UK
T: +44 (0)20 8528 1685

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Eugene Kelly**, BA, BAI, MSc, Dip Proj Mgt, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

49

ABOUT THE FIRM

The firm was founded in 1978 and established its environmental services division in 1991. It established its UK office in 2012. Originally recognised for its expertise in the design, procurement and management of projects in the dairy, food and manufacturing sectors the firm has expanded its range of services to include marine structures, building structures and specialist production / manufacturing projects and since 1999 it has been providing services in the area of transportation and roads infrastructure. With offices in Dublin, Galway and Waterford the firm provides clients with nationwide coverage within easy reach of a local base.

ENGINEERING ACTIVITIES

Civil & Structural, Environmental, Health & Safety, Manufacturing, Marine, Mechanical & Electrical, Project Management, Roads & Bridges.

PROJECT TYPES

Commercial & Retail, Education, Food & Beverage Processing, Healthcare, Industrial Development, Legal & Forensic, Manufacturing, Mining & Mineral Extraction, Pharmaceutical, Ports & Harbours, Sports & Leisure, Roads & Bridges, Site Remediation.

McCRAE CONSULTING ENGINEERS LTD (MCE)

Rear 6B Arbourfield Terrace, Dundrum Business Park, Dublin 14. D14 F5C6

T: +353 (0)1 296 2596

E: info@mceeng.ie

W: www.mceeng.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Norman Irvine**, BEng, CEng, PgDip H&S, FConsEI

TOTAL EMPLOYEES

7

ABOUT THE FIRM

McCrae Consulting Engineers specialise in Fire, Civil and Structural Engineering. Having undertaken many new build projects, we are also experts in refurbishment and conservation work. We are currently active in the residential, commercial, industrial, leisure, health care and education sectors.

We have developed an extensive repeat client base of both public and private clients. We believe work should be completed on time and within budget and this is the key to developing long term client relationships.

PRACTICE HISTORY

McCrae Consulting Engineers was founded in 2011 by Richard McCrae following 13 years working for the well-known and long standing Civil and Structural Consulting Engineers, Lee McCullough. In mid 2020, the practice merged with LMC Consulting Engineers. LMC Consulting Engineers was formed by some of the former Directors and Associate of Lee McCullough, Frank Lee, Gerry McCabe and Norman Irvine in 2012. Following the retirement of Frank and Gerry, Richard and Norman decided it was an opportune time to join forces and McCrae Consulting Engineers now incorporates LMC Consulting Engineers.

This merger has allowed the combined companies to provide an enhanced service to all our clients through an increase in scale while still maintaining the core values of both companies and providing clients with direct access to senior staff, something which is often lacking in other practices.

ENGINEERING ACTIVITIES

Civil & Structural, Conservation, Fire Safety, Assigned Certifier, PSDP, Access Consultancy.

PROJECT TYPES

Fire Safety, Residential Developments (Housing & Apartments), Commercial Developments, Conservation/Restoration, Educational, Industrial Developments, Healthcare, Leisure Facilities, Assigned Certifier, Modular Buildings.

McELROY ASSOCIATES

69 Lower Leeson Street, Dublin 2. D02 YP04

T: +353 (0)1 660 9000

E: info@mea.ie

W: www.mea.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Ray Curran**, BSc(Eng), NCEA Dip. Eng, MSc, MA, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

13

ABOUT THE FIRM

Established over 25 years ago, McElroy Associates is a multi-discipline consulting engineering practice. The firm delivers design, project management and construction supervision services to a range of international and domestic clients, primarily in the industrial sector and across a range of pharmaceutical, healthcare, process and food industry projects.

ENGINEERING ACTIVITIES

Civil, Structural, Mechanical, Electrical, Fire, Building Services, Project Management, Assigned Certifier, Project Supervisor Design Process.

PROJECT TYPES

Pharmaceutical, Biopharma, Medical Devices, Industrial, Healthcare, Commercial, Third level.

THE McKENNA PEARCE PRACTICE

Unit 39, Spruce Avenue, Stillorgan Industrial Park,
Stillorgan, Co. Dublin

T: +353 (0)1 289 7260

E: mail@mckennapearce.com

W: www.mckennapearce.com

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Jonathan A. O'Neill**, BSc(Eng), PDipProjMan, CEng, MIEI, MIStructE, FConsEI

TOTAL EMPLOYEES

4

ABOUT THE FIRM

Formed in 1996 by the amalgamation of Pearce Associates, Consulting Engineers (est.1981) and T.A.McKenna & Partners, Consulting Engineers (est. 1978). The aim of the practice is to provide effective engineering solutions consistent with our clients programme and budget.

ENGINEERING ACTIVITIES

Engineering Design: Structural,Civil, Building Refurbishment and Conservation; Safety: Fire Safety, Health & Safety (PSDP); Project Management: Feasibility Studies, Planning, Assigned Certifier, Insurance Claims & Investigations.

PROJECT TYPES

Commercial Developments including Retail and Office Complexes, Industrial and Manufacturing Developments, Residential Developments including Multi-Storey Apartments, Hotel, Leisure and Sports Complexes, Schools, hospitals and religious buildings, Aviation Projects, Domestic.

MESCAL & ASSOCIATES

Enterprise House, Centre Park Road, Cork. T12 X4YW

T: +353 (0)21 431 4388

E: mescaleng@gmail.com

W: www.mescal.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Michael Mescal**, BE, MASc, CEng, FIEI, FConsEI

TOTAL EMPLOYEES

2

ABOUT THE FIRM

The firm was commenced in 1987 and works continuously throughout Ireland.

ENGINEERING ACTIVITIES

Civil, Environmental, Water.

PROJECT TYPES

Wastewater Treatment Plants, Sewage Treatment, Underground Services, Water Supply, Housing Development, Landfill, Solid Waste Handling.

METEC CONSULTING ENGINEERS

La Vallee House, Upper Dargle Road, Bray,
Co. Wicklow. A98 W2H9

T: +353 (0)1 204 0005

E: info@metec.ie

W: www.metec.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Bernard Denver**, MSc, BSc(Hons)Eng, DipEng, CEng, MIEI, FConsEI
- **Maurice Ramsay**, BA, BAI, MSc, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

55

ABOUT THE FIRM

Metec's clients are industry leaders and innovators that are involved in fit outs and construction projects – from commercial to residential. They place great value on operational excellence and innovation, and our highly qualified and experienced team of Mechanical and Electrical engineers provide an end-to-end solution that encapsulates good design, innovative thinking, and a keen focus on sustainability, energy saving and building performance. Our engineers work with our LEED and WELL APs and building performance modellers in an ecosystem where information is easily accessed, shared and updated, where collaboration is continual, and where sustainability goals underpin the design.

The Metec team of engineers collectively bring over 500 years experience to our clients' projects and their experience comprises mixed-use commercial and residential developments across a wide range of engineering fields. Our values are aligned with those of our clients which uniquely qualifies us to successfully deliver their project goals.

ENGINEERING ACTIVITIES

Mechanical and Electrical, Sustainable/Energy Engineers, LEED AP, WELL AP, Energy Modelling.

PROJECT TYPES

Commercial, Retail, Pharmaceutical, Education, Sports and Leisure, Energy Audits, Health Care, Religious, Residential, Prisons.

MHL & ASSOCIATES LTD

Carraig Mor House, 10 High Street, Douglas Road,
Cork. T12 KC66

T: +353 (0)21 484 0214

E: info@mhl.ie

W: www.mhl.ie

OFFICES

88 Wood Street, London, EC2V 7RS, United Kingdom
T: +44 (0)20 72530893

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Ken Manley**, BE, CEng, MIEI, HdipEnvmn.Eng, FConsEI

TOTAL EMPLOYEES

3

ABOUT THE FIRM

The company was established in 1999 and has gained a reputation in the field of transportation engineering, local authority infrastructural design and the provision of civil engineering services for residential and commercial developments.

ENGINEERING ACTIVITIES

Civil, Transportation, Traffic modelling, Major Roads
Infrastructural Works.

PROJECT TYPES

Business Parks, Traffic Impact Studies, Road Safety Assessments, Traffic & Transportation Plans, Commercial Developments.

MICHAEL SLATTERY ASSOCIATES

19 Windsor Place, Lr Pembroke St.
Dublin 2. D02 XH36

T: +353 (0)1 676 5713

E: dublin@msa.ie

W. www.msa.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Michael Slattery**, BE, MSc(Fire Eng), CEng, FIEI, MSFPE, Eur Ing, FConsEI

TOTAL EMPLOYEES

33

ABOUT THE FIRM

Founded in 1988.

ENGINEERING ACTIVITIES

Fire Safety Engineering, Event Safety Management, Occupational Health and Safety, Fire Safety Management.

PROJECT TYPES

Stadia, Hospitals, Universities/Schools/Colleges, Shopping Centres, Industrial Buildings, Apartment Developments & Hotels, Offices/Financial Services, Major Public Assembly Events/Venues, Research Projects.

MMA CONSULTING ENGINEERS LTD

Unit 4E Fingal Bay Business Park, Balbriggan,
Co. Dublin. K32 HN82

T: +353 (0)1 690 5040

E: info@mma.ie

W. www.mma.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Dermot Doran**, HDipEng - Building Services Engineering BEng Hons. - Building Services Engineering CEng. - Engineers Ireland LEED AP

TOTAL EMPLOYEES

30

ABOUT THE FIRM

Established in 1968, the MacArdle McSweeney Design practice is now part of the Headcount Group, one of Ireland's leading outsourced engineering solutions providers. MMA Consulting Engineers continues the tradition of delivering high quality Mechanical and Electrical Building Services designs for the Commercial, Residential, Healthcare, Leisure and Industrial sectors. MMA also have a comprehensive Process Design capability.

This high-tech alliance has allowed us to modernise our design practices and we have developed industry leading 3D BIM M&E design workflows that increase design team productivity, enhance deliverable quality and significantly reduce design costs.

ENGINEERING ACTIVITIES

Mechanical and Electrical Building Services, Environmental and Sustainable Solutions, Building Refurbishment, Feasibility Studies, Due Diligence, Energy Modelling, Lighting, Sun and Shadow Modelling, Material and Personnel Flow Studies, LEED & BER Certified. Industrial Process Design, 3D Laser Scanning and Scan to BIM Validation.

PROJECT TYPES

Commercial, Industrial, High-Tech, Healthcare, Education, Residential.

MOLONY & MILLAR

Riverbank House, Ballyboden Road, Rathfarnham,
Dublin 14. D14 W2V1

T: +353 (0)1 493 0211 / +353 (0)1 493 0215

E: info@molonymillar.ie

W: www.molonymillar.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Raymond D. Goggin**, BE, CEng, MIEI, Eur Ing, FConsEI

TOTAL EMPLOYEES

8

ABOUT THE FIRM

The partnership was formed in 1969 from the previously established practice of Sir Hugh F.Molony,

ENGINEERING ACTIVITIES

Civil, Structural, Environmental.

PROJECT TYPES

Airports, Education, Hospital, Industrial, Roads, Town centres, Water, Waste treatment, Landfill, Recreational, Office development, Domestic, Private dwellings.

MOTT MacDONALD IRELAND

South Block, Rockfield, Dundrum,
Dublin 16. D16 R6VO

T: +353 (0)1 291 6700

E: engineers.dublin@mottmac.com

W: www.mottmac.ie

OFFICES

5 Eastgate Avenue, Little Island, Co. Cork. T45 EE72
T: +353 (0)21 480 9800

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Jim Sherry**, BSc, DipEng, CEng, MIEI, FConsEI
- **John T. Murphy**, BE, HDipMM, CEng, FIEI, CMCILT, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEERS

- **Gemma McCarthy**, BEng, CDipAF, CEng, RConsEI

TOTAL EMPLOYEES

165

ABOUT THE FIRM

Mott MacDonald Ireland has been operational in Ireland for over 55 years, developing the business into a multi-disciplinary operation. With over 165 staff operating in Dublin and Cork, we bring our customers a total project delivery capacity across all sectors. Mott MacDonald Ireland is part of the global Mott MacDonald Group which is entirely 'employee owned'. The total group staff is over 18,000 in 180 offices worldwide.

ENGINEERING ACTIVITIES

Civil, Structural, Transportation, Water and Wastewater, Power Generation, Power Transmission & Distribution, Environmental, Marine, Highways, Railways, Light Rail, Railway Systems, Traffic, Geotechnical, Mechanical and Electrical Building Services, Mining and Mineral Extraction, Oil and Gas, Value Engineering, Net Zero, Quantity Surveying. Telecommunications, Waste Disposal, Water, Pollution Control and Project Management.

MRG CONSULTING ENGINEERS LIMITED

4 Day Place, Tralee, Kerry. V92 AW26

T: +353 (0)66 712 3130

E: info@mrg.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Tadhg McGillicuddy**, BE, MEngSc, CEng, FIEI, FConsEI

TOTAL EMPLOYEES

13

ABOUT THE FIRM

Formerly Malone O'Regan McGillicuddy, the firm was established in 1980 in Tralee. Today has offices in Tralee and Cork with a long serving experienced team. Both offices are equipped with state of the art engineering design and draughting software and technology and on line library facilities. The practice offers a comprehensive Civil and Structural Engineering Consultancy Service and has been involved in the successful design and completion of a wide range of projects across all sectors of the industry.

ENGINEERING ACTIVITIES

Civil, Structural, Project Management.

PROJECT TYPES

Office Buildings, Bank/Retail Developments, Civil Buildings, Hospitals, Healthcare Facilities, Schools and Colleges, Industrial Development, Pharmaceutical, Sports & Leisure, Roads & Bridges, Residential Developments, Windfarm Developments.

MTW CONSULTANTS LTD

Unit 4, MTW House, Broomfield Business Park, Malahide, Co Dublin. K36 F434

T: +353 (0)1 846 3505

E: info@mtw.ie

W: www.mtw.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Tom Markham**, BE, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

8

ABOUT THE FIRM

Tom, Kevin & Bryan all graduated from the Engineering School of UCD in the mid 70's and came together in September 2000 to offer an Engineering Practice based on the north side of Dublin. We draw on a wealth of experience both nationally and internationally to offer a comprehensive and tailored service to clients.

ENGINEERING ACTIVITIES

Civil, Structural, Fire, Project Management.

PROJECT TYPES

Student Accommodation, Hotels, Industrial Development, Commercial Development, Housing Development, Apartment Complex, Listed Buildings, Artificial Playing Surfaces, Services to the Health Industry from Hospital to residential.

MUIR ASSOCIATES LTD

Marketing Network House, Argyle Square,
Morehampton Road, D04 K0Y1

T: +353 (0)1 676 2788

E: info@muir.ie

W: www.muir.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Rafid Ajina**, BSc, MEngSc, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

20

ABOUT THE FIRM

Founded in 1952 and carried out projects in Ireland and over 20 African, European and Middle East Countries. Muir Associates Limited is a civil and structural engineering and project management consultancy practice that works in partnership with clients to provide key advice and to deliver on their ambitions.

We have a technically competent team of experienced personnel with a broad range of expertise to deliver technical excellence on projects regardless of project size.

ENGINEERING ACTIVITIES

Civil, Structural, Project Management, Environmental, Marine, Traffic and Transportation, Process & Manufacturing.

PROJECT TYPES

Hotels, Aviation, Industrial, Hydraulic Structures/Water Supply, Sports & Leisure, LPG Storage, Marine, Roads, Bridges, Education, Services Planning, Transport, Masterplanning, Urban Regeneration, Public Works, Sugar Industry, Environment, Residential, Retail, Conservation, Commercial, Light Rail, Health & Safety, Building Control.

NICHOLAS O'DWYER LTD

Nutgrove Office Park, Nutgrove Ave,
Dublin 14. D14 V3F6

T: +353 (0)1 296 9000

E: dublin@nodwyer.com

W: www.nodwyer.com

OFFICES

15 Downshire Rd., Newry Co Down. BT34 IEE
T: +353 (0)28 302 66915

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Jim Oliver**, BE, CEng, MIEI, C.WEM, MCIWEM, FConsEI
- **Jerry Cronin**, BE, MIEI, CEng, Eur Ing, MCIWEM, FConsEI
- **Gerard Monaghan**, BEng, MSc, MBA, CEng, FCI Arb, MIEI, FConsEI

TOTAL EMPLOYEES

200

ABOUT THE FIRM

Founded in 1932, we were hugely instrumental in the building of a modern new nation, and in fact, our founding father, Nicholas O'Dwyer, was Chief Engineering Inspector in the Department of Local Government before establishing the company – a position he held since the foundation of the State. Later, the company moved from a family business to a partnership, and then to a private company. But throughout these changes, the innovation gene remained strong and the company continued to break new ground by looking to the new and emerging markets to find its role on the world stage. We have been to the forefront in the development of new water services infrastructure under the NDP and Department of Environment Programme, and now under Irish Water's programme. Our international business continues to be a pioneer in the developing world, and we are constantly reinventing ourselves to take account of new opportunities that present themselves – notably in the areas of environmental sustainability and next generation communications.

ENGINEERING ACTIVITIES

Water, Environmental and Planning Services, Energy, Wastewater, Buildings & Structures, Communications, Transportation, Infrastructure, Technical Assistance.

PROJECT TYPES

Water Resource Management, Water Treatment, Water Distribution Networks, Wastewater Collection Systems, Wastewater Treatment Works, Flood Protection, Educational Buildings, Residential Buildings, Healthcare Buildings, Transportation and Highways, Bridge Design and Assessment, Port Facilities, Energy Infrastructure, Communications Infrastructure, Urban Development, Social and Environmental Assessments, Environmental Studies, Licencing and Permitting.

N.J. O'GORMAN & ASSOCIATES LTD

16 Gilford Road, Sandymount, Dublin 4. D04 EC80

T: +353 (0)1 475 5244

E: contactus@njog.ie

W: www.njog.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **John O'Donovan**, BE, PE, CEng, FConsEI

TOTAL EMPLOYEES

2

ABOUT THE FIRM

N.J.O'Gorman & Associates (NJOG) is a Consulting Engineering, Project Management and Design Development Consultancy. Established in 1984, NJOG has gained over 30 years of experience in the Irish and UK construction industry by providing a high quality professional service. The Practice is firmly focused on the needs of our Clients and has a highly qualified and dedicated professional workforce which ensures the successful delivery of construction projects.

ENGINEERING ACTIVITIES

Project Management, Civil & Structural Engineering. Mechanical & Electrical Building Services Engineering, Project evaluation and auditing of development proposals, Project Monitoring, Dilapidation/Condition Surveys, Historic Buildings Conservation and Restoration, Fit-out and Refurbishment of Existing Buildings, Energy Efficiency and BER Certification, Planning Applications and EIS Co-ordination, Fire and Disability Access Certificate Applications, Commercial Property Dilapidation Surveys and Reports, Flat Roof Design and Surveys, Pyrite Investigation and Remediation.

PROJECT TYPES

Student Accommodation, Hotel, Office Developments and Fit-out, Hospital Developments, Nursing Home Projects, Educational Projects, Shopping Centre and Retail Projects, Multiplex Cinema Projects, Residential Development Projects. Large Scale Veterinary Complexes, Refurbishment of Residential and Commercial Buildings, Refurbishment of Historical/Heritage Buildings. Project Evaluations, Master Plan Development and Co-ordination. Environmental Impact Report Co-ordination. Kitchens and Restaurants, Conservation and Restoration, Industrial and Manufacturing, Energy and Sustainability, Hotel and Sports, New Roofs and Re-roofing Projects, Clean Room Design.

NOEL LAWLER CONSULTING ENGINEERS

7 Patrick Street, Kilkenny. R95 HT9T

T: +353 (0)56 772 1115

E: info@nlce.ie

W: www.nlce.ie

OFFICES

Citywest Business Centre, 3013 Lake Drive, Citywest, Dublin 24. D24 PPT3

T: +353 (0)1 469 3711

Acorn Business Centre, Blackrock, Cork. T12 K7CV

T: +353 (0)21 461 4265

Morrell Business Centre, 98 Curtain Road, London EC2A 3AF

T: +44 (0)207 9797704

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Daniel Ring**, BEng(Hons), CEng, MIEI, Low Carbon Assessor, FConsEI

TOTAL EMPLOYEES

26

ABOUT THE FIRM

Noel Lawler Consulting Engineers was established in 1980 by Noel Lawler. Over the last 36 years the Company has established itself as a highly respected M & E Building Services Consultancy with a wealth of expertise across a broad range of sectors and clients with over 4,100 commissions to date.

ENGINEERING ACTIVITIES

Engineering Design, Mechanical, Electrical, Building Services, Building Refurbishment, Conservation Safety, Fire Safety, Health & Safety, Project Supervisor Design Process (PSDP) Project Management, Feasibility Studies, Energy Audits, Energy Management, Planning, Assigned Certifier, Insurance Claims & Investigations, Low Carbon Consultants, Building Services Software (BIM, IES, CAD etc.).

PROJECT TYPES

Commercial Developments including Retail and Office Complexes, Industrial and Manufacturing Developments, Hotel, Leisure and Sports Complexes, Schools, Hospitals, Religious Buildings, Assigned Certifier, Residential Developments including Multi-Storey Apartments, Healthcare, Pharmaceutical, Education and Training.

OBA CONSULTING ENGINEERS

The Schoolyard No1 Grantham Street,
Dublin 8. D08 A494

T: +353 (0)1 535 0084

E: info@obaconsulting.ie

W: www.obaconsulting.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

• **Ciaran O'Brien**, BEng, CEng, MIEI, Eur Ing, FConsEI

TOTAL EMPLOYEES

3

ABOUT THE FIRM

The firm was founded in 2009.

ENGINEERING ACTIVITIES

Civil & Structural.

PROJECT TYPES

Domestic, Educational, Industrial, Retail Development, Sport & Leisure, Roads & Bridges, Water, Office Development, Healthcare Facilities, Hotels, Pharmaceutical.

OBMG LTD

Moydrum Business Park, Athlone, Co. Westmeath.
N37 T6K8

T: +353 (0)90 646 5010

E: gareth@obmg.ie

W: www.obmg.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

• **Gareth McGowan**, BEng (Hons), CENG, FConsEI

TOTAL EMPLOYEES

11

ABOUT THE FIRM

Innovative Mechanical and Electrical Consultants with a focus on energy efficiency, client perception and the utilisation of modern design concepts.

OBMG focus primarily in the mission critical and Data Centre environment. We provide CxA (commissioning agent), commissioning management and design services across all aspects of the mission critical industry.

We also provide M&E Design services in the industrial, commercial and healthcare sectors.

Our core staff includes a highly trained and professionally capable team with a wide spectrum of expertise from commissioning to mission critical design.

Capabilities including Design, Commissioning Management, Project Management, PSDP, BCAR Duties, Feasibility Studies, Engineering Reports, Conditional Surveys, Preliminary Design and Reporting.

ENGINEERING ACTIVITIES

Mechanical Engineering, Electrical Engineering, Commissioning Agent Services.

PROJECT TYPES

Data Centres, Mission Critical, Industrial, Commercial, Medical Device.

O'CONNOR SUTTON CRONIN

9 Prussia Street, Dublin 7. D07 KT57

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OFFICES

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113 The Mount, Belfast BT5 4ND
T: +353 (0)28 9024 4444

40 Bowling Green Lane, London EC1R ONE. UK
T: +44 (0)207 415 7120

No. 2 Snow Hill, Unit 234, Birmingham, B4 6GA
T: +44 (0)121 231 3061

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Martin McGrath**, BEng, DipStructEng, CEng, MIEI, MStructE, FConsEI
- **Patrick Field**, BSc(Hons), CEng, DipEng, CEng, GradDip (Thermal Bridging) MIEI, ASHRAE BEMP, FConsEI
- **Andy O'Brien**, BSc(Eng), DipStructEng, CEng, MIEI, MStructE, DipProjMgt, FConsEI
- **Brian O'Rourke**, BL, CEng, MIEI, FCIArb, FCIHT, FConsEI
- **Michael O'Reilly**, BSc(Eng), DipStructEng, CEng, MIEI, MStructE, FConsEI
- **Paul Healy**, BSc(Eng), CEng, FIEI, FIStructE, FConsEI
- **Brian Madden**, Dip.Eng, BScEng, PGD H+G, PGD CFE, PGD Int. S, FConsEI
- **Anthony Horan**, BE, CEng, MIEI, PMP, DipProjMgmt, PCertRSA, Prince2@Practitioner, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEERS

- **Eddie Lyons**, BE, CEng, MIEI, MStructE, RConsEI
- **Ian Crehan**, BE, CEng, MIEI, MStructE, RConsEI
- **Paul McSteen**, BSc(Eng), DipEng, CEng, MStructE, MIEI, RConsEI
- **Declan Barry**, BE, CEng, MIEI, RConsEI
- **Shaun Doody**, BE, MSc, CEng, MIEI, MStructE

TOTAL EMPLOYEES

280

ABOUT THE FIRM

This firm was founded in November 1988 in Dublin. It has since grown to become an international multi-disciplinary practice.

ENGINEERING ACTIVITIES

Structural, Civil (and Associated Structures), Mechanical and Electrical, Roads, Construction Management, Bridge Design, Rail, Environmental, Pollution Control, Waste Management, Water, Project Management, Traffic, Expert Witness, Sustainability, Health and Safety.

PROJECT TYPES

Third level Colleges, Hospital Developments, Office Developments, Roads Design & Transportation, Commercial/Corporate Developments, Industrial Developments, Primary/Post Primary Schools, Site Development Works, Apartment/Housing Developments, Civil Engineering Projects, Environmental Projects, Local Authority Developments, Refurbishment Projects, Leisure Developments, Golf Course Developments, Bridges, Rail, Construction Management.

PATRICK McCAUL ENVIRON. CONSULTING ENGINEERS LTD

3 Bankmore Business Park, Bankmore Road, Omagh,
Co. Tyrone. BT79 0BE

T: +44 (0)28 8225 1155

E: info@pmccaul.com

W: www.pmccaul.com

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Niall O'Kane**, BEng(Hons), CEng, MCIBSE, FConsEI
- **Patrick McCaul**, BEng(Hons), CEng, MCIBSE, FConsEI

TOTAL EMPLOYEES

12

ABOUT THE FIRM

Patrick McCaul Environmental Consulting Engineers Ltd. is a fully accredited company of Chartered Mechanical & Electrical and Renewable Technologies Consulting Engineers who have earned a respected reputation in the building services industry throughout Ireland.

The company has always been innovative and willing to embrace and implement new technologies. Being up-to-date with the most recent technological developments and legislation is a core business competency that helps ensure the company's place as one of the most experienced, dynamic and forward-thinking M&E engineering practices in Ireland.

We have extensive experience of New Builds, Refurbishment and Upgrade projects over the years with quality design and build, sustainability, energy efficiency, comfort criteria, low maintenance and flexible and future proofing applied. Develop and Construct contracts, including PFI projects, are a significant element of the design workload of the Company over the past number of years and we have excellent experience of off-site constructions having completed the M&E services for numerous modular buildings.

As Energy Consultants we provide Low Carbon Design and Integration Strategies, Energy Management and Efficiency, Renewable Technologies consultancy and Building Energy Ratings (BER's) assessments. These services recommend ways to control costs, reduce energy bills and lower carbon emissions which allow Clients to operate their businesses to optimum efficiency.

We also provide a comprehensive, independent renewable energy consulting service to ensure maximum financial viability for our clients whether considering a small on-site system or a large-scale industrial project.

ENGINEERING ACTIVITIES

Mechanical & Electrical Engineering, Low Carbon Design & Integration Engineering and Building Energy Ratings.

PROJECT TYPES

Industrial, Educational, Healthcare, Churches, Hotels/Leisure, Swimming pools/Spa's, Housing & Apartments, Office Blocks & Call Centres, Domestic, Retail and Commercial.

PAUL TWOMEY & ASSOCIATES LTD

18, St Patrick's Hill, Cork. T23 TN3H
T: +353 (0)21 450 7784 / 450 6414
E: info@ptaengineers.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Joseph O'Sullivan**, BE, CEng, Eur Ing, FIEI, FConsEI

TOTAL EMPLOYEES

4

ABOUT THE FIRM

The firm was founded in 1971 by the late Paul Twomey and provides specialist consultancy services in Civil, Structural, Fire Safety, Project Management, Forensic and Legal Engineering.

ENGINEERING ACTIVITIES

Civil, Structural, Project Management, Fire Safety, Investigation of Damage to Structures, Presentation of Engineers Evidence, Building Structure Assessment.

PROJECT TYPES

Educational, Sports Centres, Housing Estate Services, Office Block, Structural Collapse Investigations, Factories, Warehouses, Religious, Underpinning.

P. COLEMAN & ASSOCIATES

Bank Place, Ennis, Co Clare. V95 HW27
T: +353 (0)65 682 9731 / 682 9173
E: engineers@pjcoleman.com
W: www.pjcoleman.com

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Patrick Coleman**, BE, MEngSc, CEng, FIEI, Eur Ing, FConsEI

TOTAL EMPLOYEES

6

ABOUT THE FIRM

Founded in 1976 in Ennis.

ENGINEERING ACTIVITIES

Civil, Structural, Roads, Planning, Site Developments, Litigation.

PROJECT TYPES

Hotels, Office Blocks, Visitor Centres, Housing Developments, Water Schemes, Sewerage Schemes, Roof Repairs, Site Development Work, Road Design, Planning Submission/Reports, Underground Car Parks, Retail Developments, Schools, Industrial Units.

PCCE PAUL CONDRON CONSULTING ENG LTD

10 Rectory Way, Herbert Road, Bray,
Co. Wicklow. A98 CD88

T: +353 (0)1 276 4650/ +353 (0)87 243 3602

E: info@pcce.ie

W: www.pcce.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Paul Condron**, BE, CEng, Eur Ing, MIEI, MCIBSE, FConsEI

TOTAL EMPLOYEES

1

ABOUT THE FIRM

PCCE - Paul Condron, has over 48 years' experience in his areas of operations. After some 30 years of Building Services experience in both Ireland and overseas, Paul developed PCCE in 2003 to offer Training and Consultancy Services primarily directed at Life Safety Systems - Fire Detection and Alarm (FDAS) and Emergency Lighting (EML).

In addition, experience was developed through working with ACEI and Engineers Ireland in respect of Designing for Safety in Construction.

Former joint Managing Director of Cuthbert Condron Associates and subsequently Regional Director with White Young Green Ireland.

Overseas experience in Nigeria, Saudi Arabia, USA.

Active member of the NSAI technical Committees representing ACEI members, for the development of the following National standards:
I.S.3218 - Fire Detection and Alarm Systems (2001-2021),
I.S.3217- Emergency Lighting (2010-2021).

ENGINEERING ACTIVITIES

Technical Course Development and Presentation:
Fire Detection and Alarm Systems (FDAS)
Emergency Lighting (EML)
Fire Safety Systems (FSS)
Construction Legislation (DSC)

PROJECT TYPES

PCCE Training - Courses

- Fire Detection and Alarm Systems (FDAS): 1-day Review Course; 3-day Level Certificate course developed to Level 6 Special Purpose; Service
- Emergency Lighting (EL): 1-day Review Course; Service and Maintenance
- Courses; Fire Safety (FSS): User Responsibilities for Fire Safety in Residential Buildings
- Legislation (DSC): Designing for Safety in Construction - Structural/Civil Engineering (SC) and Building Services/ Facilities Management (M&E/FM)

PCCE Consulting

Fire Detection and Alarm Systems (FDAS)

- Existing system survey and reporting
- Design Review
- Design
- Verification

Emergency Lighting(EML)

- Existing system survey and reporting
- Design Review
- Design
- Verification

FDAS and EML Project Management

PHM CONSULTING LTD

11 Mallow Street, Limerick, V94 WRN4

T: +353 (0)61 576 020

E: info@phm.ie

W: www.phm.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Edward O'Donovan**, BSc(Eng), MProjectMgt, CEng, MIStructE, FConsEI

TOTAL EMPLOYEES

5

ABOUT THE FIRM

Established in 2009.

ENGINEERING ACTIVITIES

Civil and Structural, Environmental.

PROJECT TYPES

Commercial/Retail, Housing Schemes, Resource/Recreational Centres, Industrial/Warehousing, Educational, Environment, Stakeholder Management & Communications, Project Management Services, Structural/Buildings, Transport Planning.

PMCE LTD

17 Greenmount House, Greenmount Office Park,
Harold's Cross, D6W. D6W VX78

T: +353 (0)1 464 3041

E: info@pmceconsultants.com

W: www.pmceconsultants.com

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- Peter Monahan, BE, MSc, FIEI, MIHT FConsEI

TOTAL EMPLOYEES

8

ABOUT THE FIRM

PMCE provides consulting engineering services to public & private clients in Ireland, the U.K. and GCC countries in the areas of Road Safety Engineering, Road Planning & Design, Traffic Analysis & Assessment and Project Management.

ENGINEERING ACTIVITIES

Traffic Modelling, Road Design (all stages), Road Safety, Project Management, Collision Analysis, Network Safety Assessment, Network Safety Ranking, Quality Audits, Road Safety Impact Assessment, Project Supervisor Design Process (PSDP), Research, Training.

PROJECT TYPES

Road Design, Traffic Engineering, Road Safety Audits, Road Safety Inspection, Traffic & Transport Assessment, Quality Audits.

POGA CONSULTING ENGINEERS

Unit C2, Nutgrove Office Park, Rathfarnham,
Dublin14. D14 CR20

T: +353 (0)1 205 1101

E: info@pogorman.ie

W: www.poga.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- Paul Moran, BE, CEng, FConsEI

TOTAL EMPLOYEES

5

ABOUT THE FIRM

Pat O'Gorman & Associates is a leading Irish independent Consultant Engineering practice. Our practice has over 26 years' experience providing professional Consultant Engineering Services to the construction industry throughout Ireland and we pride ourselves on our unrivalled service. Our Client profile includes Private Clients, Developers, Public Bodies, International Corporations, National Asset Management Agency, Local Authorities & Building Contractors. We are Independently owned so we can focus on our Clients' requirements. Our approach has made a real difference to our Clients and this is measured not just in testimonials but in our Client retention rate and continued growth of our business.

ENGINEERING ACTIVITIES

Structural & Civil.

PROJECT TYPES

Residential Developments, Retail/Commercial, Special Structures, Apartments, Industrial Estates, Conservation/ Building Restoration, Office Developments, Hotels, Factories & Warehousing, Educational & Community Buildings, Roads, Drainage.

PUNCH CONSULTING ENGINEERS

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Co. Dublin. A96 C7W7

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E: dublin@punchconsulting.com

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T: +353 (0)21 462 4000

Carleycon House, Main Street, Oranmore, Co. Galway, H91 T026

T: +353 (0)91 703 500

Unit 2, The Doges Building, Templeton On The Green, Glasgow,
G40 1DA, Scotland

T: +44 (0)141 550 7270

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Tim Murnane**, BEng, CEng, FIEI, FICE, FConsEI
- **Ronan Stokes**, BE, CEng, MIEI, MStructE, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEERS

- **Kevin O'Riordan**, BEng, CEng, MIEI, RConsEI

TOTAL EMPLOYEES

100

ABOUT THE FIRM

PUNCH was founded in 1973 in Limerick and the vision of its founding members was to create sustainable high quality Engineering employment in the mid west region. This vision has been fully realised and almost 50 years later, the company has expanded geographically to have offices in the four largest cities in the Republic. Additionally, we have an office in Glasgow, Scotland. We provide Engineering Consultancy Services in the area of Civil, Structural and Environmental Engineering. Our highly skilled team have extensive experience of planning, detailed design and construction and we have an extensive portfolio of completed projects throughout Ireland and beyond. Some notable recent work include award winning projects such as: Thomond Park Rugby Stadium, National Gallery of Ireland, St. Mels Cathedral Restoration, Adare Manor and Arthur Cox HQ Dublin 2.

ENGINEERING ACTIVITIES

Civil, Structural, Environmental, Marine, Roads, Bridges, Transportation, Flooding, Waste, Assigned Certifier, Health and Safety (PSDP), Expert Witness and Government Advisory Work.

PROJECT TYPES

Residential, Office Developments, Industrial, Logistics, Bridges, Marine, Commercial, Museums/Cultural, Education Facilities, Roads, Heritage and Refurbishment, Sports and Leisure, Healthcare, Hotels, Waste Treatment, Water Supply and Conservation.

RKA CONSULTING ENGINEERS

2 Clogheen Business Park, Blarney Road,
Cork. T23 X70V

T: +353 (0)21 439 9799

E: admin@rka.ie

W: www.rka.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Raymond F. Keane**, BE, MEngSc, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

8

ABOUT THE FIRM

RKA - Ray Keane & Associates is an ISO9001:2008 accredited firm of Consulting Engineers and Project Managers. The practice, which was established in 1985, provides expertise in Civil and Structural Engineering and Project Management. The practice is structured to offer a comprehensive range of Engineering and Project Management services. We take pride in delivering a dedicated personalised service to our clients.

ENGINEERING ACTIVITIES

Engineering Activities.

PROJECT TYPES

Land Use Feasibility Studies, Retail and Forecourt Developments, Residential and Regeneration Projects, Building Conservation Projects, Office, Commercial and Business Park Developments, Industrial and Waste Management Developments, Land Surveying and Mapping.

ROADPLAN CONSULTING

7 Ormonde Road, Kilkenny. R95 N4FE
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E: info@roadplan.ie
W: www.roadplan.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

• **Dermot Donovan**, BE, Dip Env Eng, CEng FIEI, FConsEI

TOTAL EMPLOYEES

13

ABOUT THE FIRM

Roadplan Consulting provides engineering consultancy services in road design, road safety and transportation assessment. Roadplan Consulting was established in late 2003 and operates from our offices in Kilkenny City. Our staff has a wealth of experience in all areas of the roads and traffic industry and serves the needs of a broad public and private client base.

ENGINEERING ACTIVITIES

Road Design, Road Safety Assessment, Urban Mobility, Transportation Analysis, Statutory Processes.

PROJECT TYPES

Roads, Urban Realm, Road Assessment Management.

ROGER MULLARKEY & ASSOCIATES

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E: info@rmullarkey.ie
W: www.rmullarkey.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

• **Roger Mullarkey**, BSc(Eng), DipEng, CEng, MIEI, Eur Ing, FConsEI

TOTAL EMPLOYEES

2

ABOUT THE FIRM

With over 26 years of experience, Roger Mullarkey has a vast experience right across the construction industry sector and has gained a strong reputation as a professional, safe, efficient and reliable consultant engineer who has always maintained a strong commitment to Clients in providing a comprehensive consultancy service. Roger provides a high quality design in a cost efficient manner with a Client centred approach. Maintaining a personal commitment to every project from inception to completion is a proven attribute of Roger Mullarkey and is reflected by the respect he has gained in the quarter of a century of his consultancy experience.

ENGINEERING ACTIVITIES

Structural engineering design, Civil Engineering Design, Site Supervision, Structural Building Surveying.

PROJECT TYPES

Residential, commercial & retail developments, hotel/accommodation schemes, land use feasibility, school projects, community buildings, Local Authority projects, new and remediated industrial developments, conservation refurbishment and due-diligence.

ROUGHAN & O'DONOVAN

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T: +44 (0)113 298 0000

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Harry Meighan**, (Chairman) BE, CEng, FIEI, HDipConsLaw, FConsEI
- **Jim Thorpe**, (Managing Director) BSc, DipEng, CEng, MIEI, MICE, FConsEI
- **Richard Marc Jones**, (Company Secretary) BEng (Hons), CEng MICE, CEng MIEI, FConsEI
- **Mark Kilcullen**, BE, MSc, CEng, MIEI, FConsEI
- **Seamus MacGearailt**, BE, CEng, FIEI, FConsEI
- **Aonghus O'Keefe**, BEng MEngSc MBA CEng MIEI, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEERS

- **Andrew Thomson**, PhD, BAI, BA, HDip (PrjMgt), CEng, MIEI, RConsEI
- **Daire O Riagain**, BE(Hons), P.Grad.Dip Cons Law, CEng, MIEI, RConsEI
- **Edward Warren**, BE Civil, CEng, MIEI RConsEI
- **Peter King**, BA, BAI, P.Grad.Dip, CEng, RConsEI
- **Eoin O'Cathain**, BE, MSc, HDip, CEng MIEI, RConsEI

TOTAL EMPLOYEES

218

ABOUT THE FIRM

Founded in 1974 the company has expanded to a leading position in the Irish Market providing integrated multi-disciplinary professional services through all project phases. Current projects include TII eMOS, A6 Dungiven to Drumahoe, Waterford City North Quays, HSE CNU PPP, HSE Decarbonisation Pathfinder, West Clare Greenway, BusConnects, DART+ West and Great Yarmouth Third River Crossing. The company has a research group who are currently working on the INFRALINC project assessing risk to critical infrastructure resulting from climate change.

ENGINEERING ACTIVITIES

Asset Management, Buildings, Bridges, Civil, Environmental, Flood Modelling and Defences, Geotechnics, ITS, Planning, Ports and Harbours, Rail, Roads, Greenways, Research, Site Development, Structural, Traffic and Transportation, Water and Wastewater, Contract Administration, Project Supervisor Design Process (PSDP).

PROJECT TYPES

All types of projects in the practised fields of engineering from feasibility through to handover.

RPS CONSULTING ENGINEERS

West Pier Business Campus, Dun Laoghaire,
Co. Dublin, A96 N6T7

T: +353 (0)1 488 2900

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OFFICES

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Willie Madden**, BA, BAI, MSc, PG Cert Mgt, CEng, FConsEI (Managing Director)
- **Gerry Carty**, BE, ME, CEng, FIEI, C.WEM, MCIWEM, MInsD, FConsEI
- **Christy O'Sullivan**, BA, BAI, MSc, CEng, CWEM, FIEI, MICE, MCIWEM, FConsEI
- **Grellan McGrath**, BE, CEng, FConsEI
- **David McHugh**, BE, MBA, CEng, MIEI, C.WEM, MCIWEM, FConsEI
- **Alan Curran**, BA, BAI, CEng, Post Grad DipEng, Post Grad Dip Mgt, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEERS

- **Brendan Brice**, BE, MEngSc, CEng, MIEI, RConsEI
- **Eamon Cox**, BE, CEng, MassPE, DipPM, RConsEI
- **Gareth McElhinney**, BE, MBS, CEng, MIEI, PMI-PMP, RConsEI
- **Paul O'Riordan**, BE, CEng, MIEI, RConsEI
- **Rowan O'Callaghan**, BE, MEngSc, DipIT, CEng, MIEI, RConsEI
- **Cian McGuinness**, BE, MEngSc, CEng, RConsEI
- **Cormac Woods**, BSc(Eng), P.GradDip, H&S, CEng, FISTructE, FIEI, RConsEI

TOTAL EMPLOYEES

420

ABOUT THE FIRM

We are an integrated multidisciplinary engineering, environmental, planning, project management and project communications consultancy. Part of RPS Group since 2002. Established in 1967.

ENGINEERING ACTIVITIES

Airports, Asset Management, BIM, Bridges, Civil, Energy, Environmental, Fire, Geotechnical, Health & Safety, Industrial & Commercial, Mechanical/Electrical, Planning, Pharmaceutical, Ports/Harbours, Project Management, Road, Rail, Structural, Sustainability, Waste, Wastewater and Water.

PROJECT TYPES

Catchment & Marine Management, Civil (incl Associated Structures), Energy (inc. Renewables), Environment and Ecology (inc. AA/EIA/SEA), Flood Risk Management, Geotechnical / Hydrological/ Hydrogeological, Health & Safety, Information Technology (inc GIS), Marine, Oil, Gas and Water Pipelines, Planning, Project Management, Public Private Partnership (PPPs/DB/DBO), Risk Assessments, Roads/Ports/Rail/Airports, Stakeholder Management & Communications, Structural/ Buildings/Bridges, Sustainability, Transport Planning, Waste Management, Water/Waste Water.

RYAN ASSOCIATES CONSULTING ENGINEERS

Unit C4, Nutgrove Office Park, Rathfarnham,
Dublin 4. D14 W6K3

T: +353 (0)1 299 0730

E: info@ryanassociates.ie

W: www.ryanassociates.ie

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Valentine Ryan**, BSc, CEng, MIEI, MIStructE, FConsEI

TOTAL EMPLOYEES

3

ABOUT THE FIRM

Established in 2003 we specialise in the design of building structures and associated civil engineering works and the monitoring of their construction. We are passionate about buildings and about our role in the design and construction process. We aim to deliver technically excellent, sustainable and cost efficient solutions.

We believe in a collaborative process involving client, design team and contractors. This is key to achieving our common goal – another successful project.

ENGINEERING ACTIVITIES

Civil, Structural, Conservation, Project Management.

PROJECT TYPES

Domestic, Residential, Multi-storey Residential , Commercial Developments, Industrial and Warehousing , Retail, Offices, Hotels/Leisure, Schools, Healthcare, Nursing Homes, Conservation, Expert Reports.

RYAN HANLEY

1 Galway Business Park, Dangan, Galway. H91 A3EF

T: +353 (0)91 587 116

E: rhc@ryanhanley.ie

W: www.ryanhanley.ie

OFFICES

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T: +353 (0)1 297 3030

Innovation House, Moneen Road, Castlebar, Co. Mayo. F23 E400

T: +353 (0)91 587 116

Building 1000, Gateway Business Park, New Mallow Road, Cork.

T: +353 (0)91 587 116

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Ger Gibney**, BE, CEng, MIEI, FConsEI (Managing Director)
- **Michael Joyce**, BE, CEng, FIEI, MCIWEM, FConsEI

TOTAL EMPLOYEES

110

ABOUT THE FIRM

Founded in 1931. Present company formed in 1980.

ENGINEERING ACTIVITIES

Civil and Structural, Water, Wastewater, Drainage, Environmental, Flood Control, River Management, Water Conservation, Asset management, Roads, Traffic, Site Development, Structural Design of Buildings and Bridges, Project Management, Quantity Surveying, Statutory Compliance, Marine, Leisure.

PROJECT TYPES

Water Resource Planning, Water Treatment, Water Supply, Water Conservation, Water System Management, Drainage Urban, Hydrological Studies, Flood Control, Wastewater Treatment, Marine Outfalls, Environmental Impact Statements, Transportation, Traffic Analysis, Roads, Bridges, Building Design, Ecological Assessments and Reports.

SDS DESIGN ENGINEERS

Unit 9, N5 Business Park, Castlebar, Co. Mayo.

T: +353 (0)94 9034914

E: info@structuraldesign.ie

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OFFICES

Dublin : Silverdale, Old Swords Road, Santry, D09 CA24
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London : Bridge House, 25-27 The Bridge, Wealdstone, Harrow.
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T: +44 203 026 6724

Spain : Calle Virgen de Guadalupe 44, Ubeda 23400, Jaen.
T: +34 662 556 212

FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEERS

- **Danny Groarke**, MSc, BE, DIC, FConsEI

TOTAL EMPLOYEES

25

ABOUT THE FIRM

SDS design engineers is in our 20th year of business. We are a design-focussed civil, structural, architectural and geotechnical engineering practice. We employ architects and building engineers to enhance our service to clients. We are experts in the construction of low-rise buildings, the analysis of ground conditions, and foundation design. Our clients are in public and private sectors, including government bodies, developers, main contractors and owners. We work with clients across the UK, Ireland and Spain to create quality, efficient and sustainable design solutions for the future. Key to our success has been our long-term relationships with our existing client base who continuously re-engage with us on new projects and designs. Our reputation of excellence is a product of knowledge, teamwork, dedication, communication and total commitment to achieving top quality results. Our commitment to quality means that all contracts are continuously monitored and assessed to ensure that they are completed on time, within client budgets and most importantly, according to the company's and the clients' standards and specifications. Our highly skilled and experienced design team are fully competent with the most up to date software and are always available to offer you advice and design solutions on any challenges you may be facing on your project. By using our innovative and efficient design thinking we are always able to propose significant acceleration in construction activities.

ENGINEERING ACTIVITIES

Structural, Civil, Water/Waste Water, Geotechnical, Temporary Works, Assigned Certifier.

PROJECT TYPES

Residential, Commercial, Mixed Development, Industrial/Warehousing/Data centres, Education.

SEMPLE & MCKILLOP

Unit 6, Drumillard Retail Park, Monaghan Road, Castleblayney, Co. Monaghan. A75 KH60

T: +353 (0)42 974 9570

E: info@semplemckillop.com

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OFFICES

Belfast: Unit 4, Eastbank House, 3 Eastbank Road, Carryduff, Belfast BT8 8BD
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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Stephen Finch**, BEng, CEng, FIEI, FConsEI

TOTAL EMPLOYEES

43

ABOUT THE FIRM

As a multi-award winning practice, we have experience across all sectors. With significant new build and refurbishment works experience, our expertise is particularly strong within the Education, Healthcare, Housing, Retail and Commercial sectors. We have developed an impressive local and international client base in both the public and private sectors.

ENGINEERING ACTIVITIES

Mechanical, Electrical, Plumbing, Low Carbon and Environmental Consultancy, Specialist Technical Services.

PROJECT TYPES

Education, Healthcare, Housing, Retail and Commercial sectors.

SIOBHAN FAHEY

Chartered Engineer and Chartered Arbitrator,
Gold Coast Road, Ballinacourty, Dungarvan,
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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Siobhan Fahey**, BA, BAI, LLB, DiplArb, CEng, MICE, MIEI, FCIArb, CIArb Accredited Mediator. FIDIC International Accredited Trainer. CIArb Accredited Adjudicator (Republic of Ireland), FIDIC President's List Adjudicator, FConsEI

TOTAL EMPLOYEES

1

ABOUT THE FIRM

Siobhan Fahey is a Chartered Civil Engineer who specialises in construction law. Her particular expertise is in the avoidance and resolution of construction disputes. An independent consultant since 2004, Siobhan spends her working life as an Arbitrator, Conciliator, Adjudicator and Mediator of construction and commercial disputes, but also provides advice and training on contracts, dispute avoidance and dispute resolution.

Siobhan became a Chartered Engineer in 1996, completed a law degree in 1997, obtained a postgraduate diploma in Arbitration in 2000, became a Chartered Arbitrator in 2009, qualified as an Accredited Mediator with CIArb in 2011, an International Accredited Trainer with FIDIC in 2012 (Module 1) and 2013 (Module 2), a CIArb Accredited Adjudicator (Republic of Ireland) in 2014 and a FIDIC President's List Adjudicator in 2016. She has worked in Ireland, the United Kingdom, Europe and the Far East, for consulting engineering firms, government agencies, contractors and consultancy firms advising contractors and developers.

Siobhan is on the FIDIC President's List of Approved Dispute Adjudicators, and on the panels of Arbitrators and Conciliators held by Engineers Ireland and by the Chartered Institute of Arbitrators. She is Chair of the Dispute Resolution Board of Engineers Ireland.

She is a very frequent speaker at FIDIC international conferences, at FIDIC/ICC (International Chamber of Commerce) conferences, and at training workshops and seminars run by the Chartered Institute of Arbitrators and Engineers Ireland.

In FIDIC, Siobhan is:-

- Member of the Contracts Committee (CC),
- CC's 'Principal Drafter' for updating the FIDIC construction, plant & design-build and EPC/turnkey forms of contract
- Chair of CC's task group for updating the FIDIC DAB Rules,
- Chair of CC's task group for drafting Subcontracts for the Plant, Design and Build and EPC/Turnkey Projects forms of contract.

She was also a member of ICC's 'expert panel' for revision of the ICC Dispute Board Rules in 2015.

ENGINEERING ACTIVITIES

Arbitration / Mediation, Civil, Legal / Forensic, Dispute Resolution, Adjudication, Conciliation.

PROJECT TYPES

Civil Engineering and Commercial.

SWECO

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **John Nolan**, BE, MEngSc, CEng, MIEI, MCIHT, FConsEI

TOTAL EMPLOYEES

11

ABOUT THE FIRM

Sweco plans and designs the communities and cities of the future. The results of our work are sustainable buildings, efficient infrastructure and access to clean water. With 15,000 employees in Northern Europe, we offer our customers the right expertise for every project. We carry out projects in 70 countries annually throughout the world. Sweco is Europe's leading architecture and engineering consultancy.

ENGINEERING ACTIVITIES

Acoustics Environmental Noise & Vibration, Active Travel, Asset Management, BIM, Bridge Engineering, Building Acoustics, Building and Specialist Structural Engineering, Building Services, Building Structures, Carbon Management, Construction Supervision, Contaminated Land and Water Quality, Development Infrastructure, District Heating, Due Diligence Services, Ecology, E-mobility, Energy Storage, Environmental Impact Assessment/EIAR, Expert Witness Services, Fire Engineering, Flood Risk Management, Gas to Grid and Biomethane Upgrading, Grid Services, Ground Engineering, Highway Engineering, Intelligent Building Solutions, Intelligent Transport Systems, Landscape Design, Multimodal Studies, Offshore Wind, Onshore Wind and Hydro, PAS 55/ISO 55000 Assessment and Certification, Pavement Engineering, Project Management, Rail, Real Time Systems and Data, Regulation, Risk and Value Management, Road Safety Audits, Site SCADA Systems, Sludge Treatment, Solar, Stakeholder Management, Sustainable Development and Planning, Telemetry Systems, Thermal Biomass and CCGT, Traffic Engineering and Design, Transport Appraisal, Transport Economics, Transport Modelling, Transport Planning for Development, Transport Policy and Strategy, Transportation Feasibility Studies, Travel Behaviour Change, Travel Planning, Value Engineering, Waste and Regulatory, Waste and Resources Management, Wastewater Infrastructure, Wastewater Non-Infrastructure, Water Infrastructure, Water Non-Infrastructure, Water Resources.

PROJECT TYPES

Asset Management, Building Engineering, Energy, Environment, Transport Planning, Development Infrastructure, Transportation Infrastructure, Water, Landscape Architecture.

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Tim Lenihan**, BE, CEng, MIEI, FConsEI

TOTAL EMPLOYEES

6

ABOUT THE FIRM

Established in 2003, TG Lenihan has established a reputation in the region as being capable of providing a professional service in all aspects of civil and structural engineering. We have a track record in successfully completing large commercial and industrial projects. Based in a rural town, we also have established a reputation in the local community as providing civil engineering services, including house surveys, mapping, land surveys, fire certificates, DAC certificates and more.

ENGINEERING ACTIVITIES

Structural Design, Project Management, Assigned Certifiers.

PROJECT TYPES

Industrial Warehousing, Churches, Industrial Plants, Schools, Sports Stadia, Housing Developments, Agricultural.

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- **Michael Moriarty**, BE, MEngSc, CEng, FIEI, FConsEI
- **Patrick J. Cassidy**, BE, DAL, Eur Ing, CEng, FIEI, MCIWEM, FCI Arb, FConsEI
- **Siobhán Moneley**, B.E., MSc(Eng), PgCert BIM Tech, PgDip Collab. BIM, CEng, MIEI, FConsEI

RConsEI - ACEI REGISTERED PROFESSIONAL CONSULTING ENGINEERS

- **Diarmuid Cahalane**, BE, MEngSc, DipConstLaw, CEng, FIEI, CWEM, MCIWEM, RConsEI
- **John Meade**, BSc(Eng), Dip Eng, Dip Proj Mgmt, CEng, MIEI, MStruct, RConsEI
- **Ronan Doyle**, BEng(Hons), CEng, MIEI, CPEng, MIEAust, CWEM, MCIWEM, RConsEI
- **Ronan McElwain**, BEng(Hons), MSc Mgmt, PGDip ABRC, PGDip H&S, CEng MIEI, MStructE, MICE, IOSH, RConsEI
- **Niall McCaffrey**, BSc(Eng), Dip Eng, PGDip H&S, CEng, MIEI, Grad IOSH, RConsEI

TOTAL EMPLOYEES

52

ABOUT THE FIRM

Established in 1937 by Mr T. J. O'Connor and subsequently formed into T. J. O'Connor & Associates.

ENGINEERING ACTIVITIES

Civil and Structural Engineering.

PROJECT TYPES

Civil

Water Supply Schemes, Water Treatment Plants, Drainage Schemes, Waste Water Treatment Plants, Flood Relief Schemes.

Structural

Town Centres / Shopping Centres, Hospitals, Office Developments, Schools, Apartments, Industrial Buildings, Hotels.

BIM

Level 2 BIM / ISO 19650 compliant on all Civil and Structural Engineering Projects.

TOBIN CONSULTING ENGINEERS

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- **Brian Gallagher**, BE, MEngSc, CEng., MIEI, FConsEI

TOTAL EMPLOYEES

98

ABOUT THE FIRM

Founded in 1952, TOBIN Consulting Engineers is a multidisciplinary design and project management practice, which adds value to new projects for a broad range of clients across the public and private sectors.

ENGINEERING ACTIVITIES

Building & Infrastructure, Water Services / Heavy Civils, Environmental & Planning.

PROJECT TYPES

Building & Infrastructure: Structural Engineering, Civil Engineering, Roads & Transportation Engineering, Specialist Sports Infrastructure Design, Project Management, Quantity Surveying & Cost Management, Contract Administration, Assigned Certifier, PSDP / Health & Safety, Planning Assistance Consultancy Services, Fire Safety & Disability Access Certificate Design.

Water Services / Heavy Civils: Public Works, Contractor Design (D&B), Major Flood Works, Flood Risk Assessments, Specialism – Modelling,

Environmental & Planning: Environmental Impact Assessments, Local Authority Planning Applications, Strategic Infrastructure Development (S.I.D.) Planning Applications, Waste Management Planning (Construction & Operational), Environmental Due Diligence Assessments, Appropriate Assessments / NIS, Construction & Environmental Management Plans, Contaminated Land Assessment & Remediation Due Diligence, Ecological Assessments, Ecological Clerk of Works (ECoW), Environmental Monitoring, Expert Witness for Oral Hearings, Groundwater Vulnerability Mapping, Hydrogeological Assessments.

TORQUE CONSULTING ENGINEERS LTD

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FConsEI - ACEI FELLOW PROFESSIONAL CONSULTING ENGINEER

- **Ken Moriarty** (Managing) BSc(Eng), DipStructEng, CEng, FIEI, FStructE, Eur Ing, FConsEI

TOTAL EMPLOYEES

3

ABOUT THE FIRM

Torque Consulting Engineers was founded in 2013 by Ken Moriarty. Based in Dublin, our vision is to provide Excellent design coupled with strong personal relationships and customer satisfaction. Ken has a wealth of experience acting as project Director on many significant Public, Commercial, Retail, Residential and Protected Structures. Ken is a Fellow of Engineers Ireland since 2013 and a Fellow of The Institution of Structural Engineers since 2015. Torque Consulting Engineers are committed to providing clients with a friendly, personal & professional service from inception of the project to practical completion & beyond.

ENGINEERING ACTIVITIES

Structural Engineering, Civil Engineering, Project Management.

PROJECT TYPES

Structural Engineering projects of any size across all sectors, Civil Engineering, Engineering Inspection & Assessment Reports, Due Diligence Reports, Feasibility Studies, Value Engineering, Planning & Development, Protected Structure refurbishment.

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- **Joseph Greene**, BSc Elect Eng, CEng, MIEI, FConsEI
- **Declan Doyle**, BSc Elect Eng, CEng, MIEI, FConsEI
- **Sean Neary**, BE (Hons), CEng, MIEI, MCIBSE, FConsEI

TOTAL EMPLOYEES

53

ABOUT THE FIRM

Founded in 1946. Linked to Varming Offices in London, Edinburgh, Sydney, Copenhagen, Hong Kong and New York. Integrated Quality Assurance Environment & Health and Safety Certification Systems to IS EN ISO 9001:2015, IS EN ISO 14001:2015, IS ISO 45001:2018. EI Accredited CPD Company.

ENGINEERING ACTIVITIES

Mechanical and Electrical Building Services, MV Installation Design, IT & Utility Infrastructure Planning, Energy Efficient Design Expertise, Dynamic Simulation Modelling, BREEAM Assessments, Passive House Design, Infrastructure Planning, Fire Protection & Security Systems Engineering, Regulatory Compliance, Sustainable Design, Energy Modelling, Project Management, Project Supervisor Design Process.

PROJECT TYPES

Healthcare Buildings, Public and Commercial Office Buildings, Residential Buildings, Educational Buildings, Hotels & Conference Centres, Retail Shopping Centres, Classified Laboratories, Cleanrooms, Industrial Production Buildings, Period/Historical Buildings.

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- **Mark Duignan**, MA, BAI, CEng, MIEI, RConsEI
- **Michael Conneally**, BE, CEng, MIEI, CPEng, IntPE, RConsEI
- **Niall Coughlan**, BAI, CEng, RConsEI
- **Margaret Dolan**, Tech Cert, BSc(Hons), CEng, MIEI, RConsEI
- **Ian Worrell**, BScEng, DipEng, CEng, MIEI, DipPhysPlg, RConsEI
- **Kevin Farrell**, CEng, MEng, BSc Deg, MIEI, RConsEI

TOTAL EMPLOYEES

101

ABOUT THE FIRM

Waterman Moylan was established in 1980 and joined the Waterman group in 2000. It offers civil, structural, mechanical, electrical and construction related health and safety consultancy and design services for the built environment to its clients.

The firm provides professional services throughout the complete life cycle of an asset, starting from initial surveys and concept planning through to design, delivery, project management, construction monitoring and ongoing maintenance. Its core values are excellence in engineering standards allied to a focus on delivering practical and economic solutions for its clients.

Working with government agencies, local authorities and private sector clients to provide innovative, sustainable and economic solutions across a wide spectrum of business activities, Waterman Moylan has delivered a diverse range of projects across all main market sectors ranging from city centre regeneration to new highway schemes; mixed use development to signature education buildings; large commercial offices to public realm enhancement.

The firm operates an integrated management system which is accredited to ISO 9001 and ISO 14001 to ensure a consistent high quality of service to its clients.

ENGINEERING ACTIVITIES

Civil, Structural, Marine, Traffic, Transportation, Building Services, BREEAM/LEED assessment, Project Management, Health & Safety.

PROJECT TYPES

Offices, Residential, Retail, Leisure Facilities, Public Buildings, Schools, Hospitals, Industrial Buildings, Conservation, Refurbishment, Roads, Bridges, Drainage, Water Supply, Railways, Site Development, Marinas, Ports and Harbours, Traffic, Waste Management, Surveys.

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• **Seamus Crickley**, BE, Eur Ing, CEng, FIEI, WEF, RGFI, FConsEI

TOTAL EMPLOYEES

15

ABOUT THE FIRM

WEW Engineering Ltd. is a multi-disciplinary specialist Consulting Engineering Company and is dedicated solely to the Water, Energy/Bio-Energy and Wastewater sectors. The lead engineers have each worked at the cutting edge of water industry developments for more than 40 years and are recognised by their Engineering colleagues as experts in their fields of specialist consultancy, both in the municipal and industrial areas. WEW is registered by Enterprise-Ireland Climate Fund green service provider.

The company undertakes process design integrated with MEICA selections to provide the most sustainable answers to any water/wastewater/solids application and uses innovation engineering to transfer proven R&D and emerging technologies to field level utilising BAT.

Service areas include Masterplanning, brownfield plant surveys (process/MEICA), comparative evaluation/reporting of feasible alternatives, detailed process and works design with BIM 3D AutoCad drawings, specifications, PSDP, project management, certification, planning/design/commercial evaluation of bio-energy system concepts, energy modulation to minimise carbon footprint, decarbonisation facility with sustainability analysis with CEAP compliance, treatment/ re-use of nutrients and CO₂, organic solids to co-product condensates, water reuse by advanced treatment, odour removal, licencing/planning and expert witness representation.

WEW's Client base includes End Clients, Consulting Engineers, Project Management Companies, Contractors/Developers, International Project Design Agencies on National and International projects.

ENGINEERING ACTIVITIES

Water, Energy, Bio-Energy, Wastewater, PSDP, Project Management.

PROJECT TYPES

Municipal, Industrial, Water, Wastewater, Energy, Bio-Energy, Process design, R&D and emerging technologies, Masterplanning, Brownfield plant surveys (process/MEICA), Comparative evaluation/reporting of feasible alternatives, Detailed process and works design, BIM 3D AutoCad drawings, Certification, planning/design, design and commercial evaluation of bio-renewables systems, Energy modulation to minimise carbon footprint, Carbonation evaluations, treatment, Licencing/planning and expert witness.

ACEI REGISTER OF PROFESSIONAL CONSULTING ENGINEERS

NAME

FIRM

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Rafid Ajina	Muir Associates Ltd
Vincent Barrett	Barrett Mahony Consulting Engineers
Shane Belton	BCE, Belton Consulting Engineers Ltd
Kevin Brackfield	Brackfield Consulting Ltd
Colin Brennan	David Kelly Partnership
David Brennan	BDP
Nael G. Bunni	Bunni & Associates Ltd
Joe Burns	Arup
John J. Campbell	J.J. Campbell & Associates
John Carr	Heavey Kenny Associates
Gerry Carty	RPS Consulting Engineers
Patrick J. Cassidy	T.J. O'Connor & Associates
Niall Clarke	Kavanagh Mansfield & Partners
Patrick Coleman	P. Coleman & Associates
Paul Condron	PCCE Paul Condron Consulting Engineer Ltd
Anne Marie Conibear	J.B. Barry & Partners Ltd
John Considine	Barrett Mahony Consulting Engineers
Susan Cormican	Ethos Engineering
Seamus Crickley	WEW Engineering Ltd
Jerry Cronin	Nicholas O'Dwyer Ltd
Denis Crowley	Arup
Alan Curran	RPS Consulting Engineers
Ray Curran	McElroy Associates
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Gregory Daly	GDCL Consulting Engineers Ltd
Marcus Dancey	C S Pringle
Bernard Denver	Metec Consulting Engineers
Dermot Donovan	Roadplan Consulting Ltd
Dermot Doran	MMA Consulting Engineers Ltd
Pearse Douglas	Douglas Carroll Consulting Engineers
Cian Dowling	Axiseng
Declan Doyle	Varming Consulting Engineers
Gerard Doyle	Cundall Ltd
John Doyle	Fitzsimons Doyle & Associates
Geoffrey J. Emerson	Clifton Scannell Emerson Associates
Geoff Emerson	Clifton Scannell Emerson Associates
Joseph Ennis	JAE Engineering Ltd
John Fahey	Fahey O'Riordan Consulting Engineers
Siobhan Fahey	Siobhan Fahey
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Mark Fallon	Fallon Design
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Patrick Field	O'Connor Sutton Cronin
Stephen Finch	Semple & McKillop
Emmet Finegan	Doherty Finegan Kelly
Edward Fitzgerald	T.J. O'Connor & Associates
Niall Fitzgerald	Horganlynch Consulting Engineers
Andrew Fitzsimons	Fitzsimons Doyle & Associates
James Fogarty	Environmental Design Partnership
Paul M. Forde	DBFL Consulting Engineers
Frank Fox	Frank Fox & Associates
Brian Gallagher	TOBIN Consulting Engineers
Ger Gibney	Ryan Hanley
Mark Gill	Fearon O'Neill Rooney
Raymond D. Goggin	Molony & Millar
Joseph Greene	Varming Consulting Engineers
Danny Groarke	SDS design engineers
Greg Hayden	Ethos Engineering
John Hayes	DBFL Consulting Engineers
Joseph Healy	Jennings O'Donovan & Partners Ltd
Paul Healy	O'Connor Sutton Cronin

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FIRM

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CHH Consulting Engineers
JWHA
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Hanley Pepper
Garland
Roughan & O'Donovan
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Doherty Finegan Kelly
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J.V. Tierney & Company Ltd
TG Lenihan & Co
Arup
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Kavanagh Mansfield & Partners
MTW Consultants Ltd
Waterman Moylan
Jennings O'Donovan & Partners Ltd
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Jennings O'Donovan & Partners Ltd
MRG Consulting Engineers Ltd
TOBIN Consulting Engineers
OBMG Ltd
RPS Consulting Engineers
O'Connor Sutton Cronin
RPS Consulting Engineers
Downes Associates
2HQ Consulting Engineers Ltd
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Nicholas O'Dwyer Ltd
PMCE Ltd
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Pat O'Gorman & Associates
Torque Consulting Engineers Ltd

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FIRM

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Waterman Moylan
Barrett Mahony Consulting Engineers
Delap & Waller
AGL Consulting
J. B. Barry & Partners Ltd
Arup
PHM Consulting Ltd
JODA Engineering Consultants
NJ O'Gorman & Associates
Delap & Waller
Patrick McCaul Environmental Consulting Engineers Ltd
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The McKenna Pearce Practice
O'Connor Sutton Cronin
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Waterman Moylan
David Kelly Partnership
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J. B. Barry & Partners Ltd
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David Rehill Consulting
Noel Lawler Consulting Engineers
Garland
Hanley Pepper
Hendrick Ryan + Associates
Ryan Associates Consulting Engineers
BJS Consultants Ltd
EirEng Consulting Engineers
Mott MacDonald Ireland
Michael Slattery Associates
Clifton Scannell Emerson Associates
PUNCH Consulting Engineers
CS Consulting Group
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Roughan & O'Donovan
Ethos Engineering
Fehily Timoney & Company
Fehily Timoney & Company
A1 ENG
Hugh Munro & Co Ltd
J.V.Tierney & Company Ltd
Gordon White Consulting Engineers

NAME**FIRM****RConsEI - ACEI Registered Professional Consulting Engineers**

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John Mulvey	Ethos Engineering
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Eoin O'Catháin	Roughan & O'Donovan
Rowan O'Callaghan	RPS Consulting Engineers
Daire O'Riagáin	Roughan & O'Donovan
Kevin O'Riordan	PUNCH Consulting Engineers
Paul O'Riordan	RPS Consulting Engineers
Andrew Thomson	Roughan & O'Donovan
Edward Warren	Roughan & O'Donovan
Cormac Woods	RPS Consulting Engineers
Ian Worrell	Waterman Moylan

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