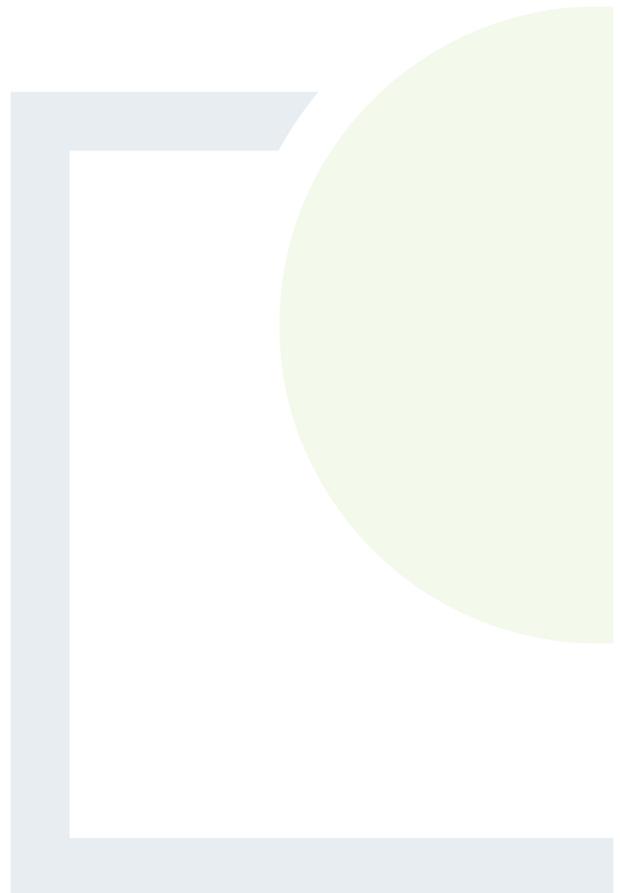




CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

APPENDIX 1

Curricula Vitae of EIAR
Contributors





Trevor Byrne

Senior Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Trevor works as a Senior Engineer for Fehily Timoney and Company. Trevor holds a Master's degree in Sustainable Energy Systems from the University of Edinburgh and an honours degree in Civil Engineering following his studies at Edinburgh Napier University and Cork Institute of Technology. Trevor is part of the Energy and Environment division at FT and is a chartered member of Engineers Ireland. His primary area of expertise is in the planning, design and construction of renewable energy projects.

Trevor gained much of his experience in wind farm development working on a large number of projects in the UK renewable energy industry over the past number of years and has helped to deliver a variety of projects employing different technologies including onshore wind, hydro and solar PV. He also has experience working in the Irish construction industry and has worked in the US on a variety of civil/environmental projects.

Trevor has considerable environmental engineering and environmental impact assessment experience and is a proven project manager. He also has significant on site experience relating to managing the construction of renewable energy developments

Key Skills

Trevor has experience in the following:

- EIAR, EIA
- Project Management
- Statutory and Public Consultation
- Oral Hearing
- Renewable Energy Development Design and Construction
- Site Supervision
- Detailed Design
- Strategic Infrastructure Developments

Previous Experience Essentials For This Project

• Teevurcher Windfarm, 2018

Teevurcher is a development in Co. Meath. FT are acting as designer to the Design and Build contractor, Roadbridge, for the construction of all onsite infrastructure associated with the development. Trevor successfully project managed all aspects of the detailed design for the project, liaising with the main contractor's management and coordinating the design team including the development's drainage system.

• Moanvane Windfarm, 2017

Moanvane is a development in Co. Offaly. FT acted as the planning consultant for the client and project supervisor for the design stage of the project. Trevor produced the outline construction environmental plan for the site as part of the environmental impact assessment for the project as well as producing the traffic and transportation section of the environmental impact assessment including a traffic impact assessment.

Key Information

Qualifications

MSc. Sustainable Energy Systems
University, YEAR

BSc. (Hons), Civil Engineering
University, YEAR

BEng. (Ord), Civil Engineer
University, YEAR

Professional Memberships

Chartered Engineer

Member of Engineers Ireland

Employment History

2016- Present

Fehily Timoney & Company
Senior Engineer

2012 – 2016

Greenspan, Edinburgh, UK
Project Manager

2010 – 2012

Cardinal Resources LLC,
Pittsburgh, PA, USA
Project Engineer

2005 – 2007

O'Shea Leader Consulting Engineers,
Cork
Graduate Engineer



Trevor Byrne

Senior Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

- **Knockacummer Windfarm Grid Connection, 2017**

Knockacummer is a 20km long 110kV grid connection project in Co. Cork for which FT acted as Employer's Engineer for the client. Trevor managed the coordination and supervision of full time site staff throughout the construction stage to ensure that the project was delivered in accordance the engineer's designs and specifications, the client's health and safety framework as well as statutory obligations, and the project's environmental management plan.

- **Gortfinbar Wind Farm, 2016**

Gortfinbar is a 5 no. wind turbine development in Co. Tyrone. FT are acting as designer to the Design and Build contractor, DMKL, for the construction of onsite roads, hardstandings, substation and all other infrastructure associated with the wind farm development. Trevor successfully project managed all aspects of the detailed design for the project, liaising with the main contractor's management and coordinating the design team.

- **Sliabh Bawn Wind Farm, 2016**

Sliabh Bawn is a 20 turbine project in Co. Roscommon. FT are acting as designer to the Design and Build contractor, Alexander for the construction of a series of walking trails, riding tracks and recreational areas throughout the wind farm. Trevor is managing the design contract on behalf of FT for this project.

- **Carirnmore Windfarm and Solar Park Hybrid, Scotland, 2015**

Cairnmore is a 4MW solar PV park in North Aberdeenshire. The site is located on a farm with a pre-existing wind farm with which the SPV scheme shares a grind connection. Trevor acted as project manager and coordinated the design, construction and procurement of the project on behalf of the client. The scheme was commissioned in early 2016 and is now generating successfully in tandem with the existing wind farm. This was the largest combined technology scale project of its type in Scotland at the time of commissioning. The main challenges associated with this project related to ensuring the exported electricity from the combined wind/solar scheme was able to meet the power quality requirements of the network. This was solved through a cooperative design process between the private electrical design team and the network operator.

- **Millvale Solar PV, 2017**

Millvale is a 15MWp solar photovoltaic generation scheme near Rathnew in Co. Wicklow for which FT were appointed by the client, BNRG, to gain planning permission. Trevor project managed the planning application and associated Environmental Report for the proposed Wicklow Solar Farm, including 38 kV substation and associated ancillary works. Lead contributor to the Environmental Report and responsible for coordination of overall project team members, including landscape and visual, ecological and archaeological sub-consultants. Responsible for extensive consultation during the planning process, including attendance at meetings with key stakeholders.



David Moore

Senior Planner



CONSULTANTS IN ENGINEERING
& ENVIRONMENTAL SCIENCES

Profile

David is a Senior Planner with Fehily Timoney and Company and is responsible for planning and environmental inputs to large scale project activity within the company.

David has over 20 years' experience in the planning and development sector within private, public and academic contexts. He has gained extensive project management experience in complex, multi-party projects at national and international scales.

David holds honours degrees at Bachelor and Masters level in Geography, a Masters degree in Business Administration and Master of Science Degree in Spatial Planning. In 2017 David was awarded a Higher Diploma in Planning and Environmental Law by the Honorable Society of King's Inns which provides him with a strong understanding of current planning legislation and court rulings.

David's planning experience embraces all aspects of development control, strategic and regional planning, together with co-ordination of multi-disciplinary teams. David has provided strategic planning advice on infrastructure, large scale residential, commercial, retail and renewable energy developments.

He has provided expertise in development plan preparation, development plan submissions and expert witness services for oral hearings, arbitration and court cases. David is an experienced Project Manager and has EIAR Coordinator to a number to large scale energy, aviation and residential projects. David has acted on behalf of project promoters and other interested stakeholders and has led a number of public engagement programmes. Over his career David has also acted as lead for IT, Data Management and GIS activity into planning and resource management projects.

Key Skills

David has experience across a broad range of planning expertise embracing:

- Experience in planning and development practice for residential, commercial, infrastructure, transport and energy sectors.
- Management of large-scale planning applications and consent process including strategic infrastructure development, substitute consent and 'Part 8' applications.
- Preparation of planning and development strategies including feasibility studies, risk management strategies, due diligence and compliance reports.
- Coordination of multi-disciplinary teams for large scale development projects including design management, Environmental Impact Assessment Reports (EIAR) and Appropriate Assessment (AA).
- Preparation of planning reports, planning appeals, development plan submissions, 'section 5' requests and referrals, and legal submissions/affidavits.
- Specialist understanding of planning compliance and enforcement issues.
- Experience in oral hearings, CPO arbitration hearings, court hearings and presentations to stakeholders, local authority elected members and officials.
- Technical skills in urban design, rural development, development plan preparation, SEA, EIA and AA, retail impact, landscape and visual assessment, GIS and data management, renewable energy technology, demographics and socio-economic analysis.

Key Information

Qualifications

Higher Diploma in Planning and Environmental Law, The Honorable Society of King's Inns, 2017

MSc. Spatial Planning, Dublin Institute of Technology, 2006

Masters in Business Administration, Open University, UK, 2002

Masters of Arts (Geography with GIS), University College Dublin 1991

Bachelor of Arts (Archaeology & Geography) 1988

Professional Memberships

Irish Planning Institute (Corporate Member, Elected Chairman of the Cork IPI Branch, 2011/12)

MBA Association of Ireland (Member of Southern Branch Committee 2011)

IRLOGI (Irish GIS and Geo-data Umbrella organisation member since 1996)

Employment History

2013- Present

Fehily Timoney & Company

2003 – 2013

Spatial Planning Solutions Ltd.

2001 – 2003

McCutcheon Hogan, Planning Consultants, Cork

1998 – 2001

EUROGISE Project, National University of Ireland, Galway

1996 – 1998

CSA Computing, Dundrum Business Park, Dundrum

1992 – 1996

Kevin Cullen & Company (NGIS), Environmental Consultants, Dublin



David Moore

Senior Planner



CONSULTANTS IN ENGINEERING
& ENVIRONMENTAL SCIENCES

Previous Experience Essentials

- **Wind Energy:**

Compliance and statutory regulation requirements for turbine provisions at including EIAR and AA (Stage 1) coordination Barranafaddock Wind Farm, Co. Waterford for StatKraft (2019). EIAR reviewer and public consultant attendance for Coom Green Energy Park, Co. Cork (Brookfield Renewable 2019). Planning advice and strategy preparation for re-powering of existing wind energy projects (Blackrock 2019). Compliance consents for turbine regularisation at Coomacheo, Wind Farm Co. Cork & Co. Kerry for SSE and Lagan Construction (2015), Planning advice, Emlagh Wind Farm, Co. Meath Oral Hearing (Element Power 2014 – 2015); Planning advisor Maighne Wind Farm (47 no. Turbines) (Element Power 2015); Compliance advice on landscape and residential amenity impacts at Knockacummer Wind Farm, Co. Cork (Private client).
- **Solar Energy:**

Coordination and preparation of planning reports, EIA Screening and planning applications for 15 no. large scale solar energy developments in counties Cork, Clare, Kildare, Longford, Louth, Westmeath and Wexford; preparation of over 45 no. Planning Feasibility for solar projects nationally. Preparation of Further Information Requests and first party Appeals for solar projects. Submissions to the ISEA Solar Energy Guidelines. Leading of public consultation programme for planning applications.
- **Residential and Mixed Use Development:**

Planning and design advice and submission of successful planning applications, including part V submissions, relevant recent projects include:

 - Kilbarry, Co. Waterford. Masterplan input and planning permission for 190 no residential units in two phases and EIAR coordinator and project manager for additional phases to provide up to 800 residential units. (Kilbarry Developments, 2019)
 - Victoria Road, Cork City. – Planning lead and PM for grant of planning permission for two 10 storey blocks to provide for 19 apartments and mixed uses at Cork South Docks, (Target Ark, 2018)
 - Rocksborough, Co. Wexford. - Planning permission for 140 units in 2 phases, including substantial provision of social houses. David was project manager for the application and FI response (Marrow Point Properties, 2018).
 - Proposals for Social Housing to Clúid Housing. – Preparation of a proposal and planning assessment for provision of 48 no. social housing units (for Nova Connect 2017)
- **Retail and Commercial:**

Preparation and submission of planning applications, Lidl Stores, Bantry, Co. Cork (€2 million, 2009, constructed); Tramore, Co. Waterford (€3 million 2010, complete to planning permission); Ferrybank, Co. Kilkenny (€2 million, 2009, constructed); Hardware and Garden Centre, Listowel, Co. Kerry (private client, €1.5 million, complete to planning permission 2008).

Due diligence for supermarkets and retail outlets at Clonmel, Co. Tipperary and Thomastown, Co. Kilkenny, €12 million, Musgraves Group (2013/15). Advice and developer representative for enforcement proceedings for Scoil Mhuire, Cork (2014/15).
- **Development Plans, Policy and Guidance:**

Statutory Plans:

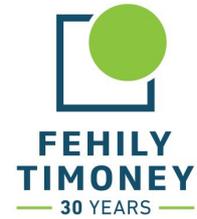
 - Askeaton Local Area Plan (2009 – 2015), Co. Limerick for Limerick County Council. David was responsible for analysis and policy input for landuse, population and housing and compilation of demographic, heritage, and transport information for the plan. This plan was undertaken in association Brendan McGrath & Associates (2008).
 - Woodstock Local Area Plan (2008—2014), for Kilkenny County Council, including landscape character assessment, heritage policy and walking route assessment with visualisations for public consultation. This plan was undertaken in association Brendan McGrath & Associates. (2007)
 - Galway Settlement Strategy, Galway County Council (2003) including assessment of existing housing provision, compliance with Galway City Council policy and identification of growth areas as part of the preparation for the Galway County Development Plan. David was responsible for plan coordination and undertook demographic analysis and identification of settlement hierarchy and policy.
- **Transport & Mobility:**

Waterford Airport: Lead planning consultant and EIA coordinator for runway extension (2018). South Kerry Greenway: team input on policy and human impacts for EIAR (2018). Dublin Airport: Planning consultant and coordinator of supporting documents on confirmation of planning exemption of proposed works (2017). Lead researcher and PM for national survey and spatial analysis of the Irish ambulance service (PHECC, 2004 to 2006).



Jim Hughes

Planner



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Jim Hughes has a BA in Public Administration (Development) from the University of Limerick, a Masters in Town Planning from Queens University Belfast and a Diploma in EIA/SEA Management from University College Dublin. Jim is also a member of the Irish Planning Institute.

Jim is a Qualified Town Planner with over 16 years post qualification planning experience in both the private and public sector. He has extensive experience in providing strategic level advice to clients and negotiating with and presenting to local authorities. Jim has experience in the management, coordination and preparation of planning applications, masterplans and Environmental Impact Assessments for mixed use schemes and large scale infrastructure projects throughout Ireland. He also has experience in the preparation of retail impact studies, planning appeals, Section 5 declaration applications and zoning submissions.

Jim has represented clients on planning enforcement matters and as expert witness at oral hearings. He is also experienced in peer review and preparation of independent planning assessments and appraisals on behalf of clients. Jim has also experience in delivering seminars to the Financial Sector on planning matters on the importance of protecting the planning asset.

Jim has acted as planning lead on a number of high profile infrastructure projects. Including the South Docklands Road infrastructure upgrade works including the Eastern Gateway Bridge, Dunkettle Interchange Road Project where FT are engaged by SISK as contractors designer. He is also planning lead on the N4 Road project where FT are engaged by Roadbridge as contractors designer.

Key Skills

- Project Management
- Strategic Planning
- Planning Process
- SID
- CPO
- Oral Hearing
- Planning Appeals
- Planning Applications
- EIA

Previous Experience Essentials For This Project

Current (2018 – Present)

Lead Planning Consultant on the Dunkettle Interchange Road Project

Responsible for planning input into the Detailed Design including planning compliance. Jim also lead the Design Team in pre-application consultations with An Bord Pleanála to discuss potential amendments to the scheme.

Lead Planning Consultant on the N4 Realignment Collooney to Castlebaldwin Road

Responsible for planning input into the Detailed Design including planning compliance and compliance with the EIA Directive and Habitats Directive.

Key Information

Qualifications

BA in Public Administration (Development), University of Limerick (2002)

MSc. Town Planning, Queens University Belfast (2004)

Diploma in EIA/SEA Management, University College Dublin (2008)

Professional Memberships

Member of the Irish Planning Institute

Employment History

2020 – Present

Fehily Timoney & Company
Director

2017 – 2020

Fehily Timoney & Company
Associate Director

2015 – 2018

Fehily Timoney & Company
Senior Planner

2007 – 2015

Cunnane Stratton Reynolds (CSR)
Senior Planner

2004 – 2007

Cork County Council
Area Planner



Jim Hughes

Planner



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Lead Planning Consultant for extension Waterford Airport Airfield Runway

Jim was project director and planning lead on the EIAR for the Waterford Airport Runway extension. The project required the preparation of an EIAR and AA for the project and as the facility was not subject to EIA previously the EIAR had to consider the overall facility and its environmental impacts.

Lead Planning Consultant for Apron and Taxi Way extension at Dublin Airport

Jim was engaged by DAA to provide planning consultancy services and planning strategy for the extension of Apron and taxi ways. Jim and his team prepared a planning strategy and a supporting EIA Screening Report.

Lead Planning Consultant on the redevelopment of the Lee Road Water Treatment Works, Cork City.

Services included preparation of planning and environmental report and the coordination of the planning submission and further information.

Planning Consultant for Shannon Commercial Properties, a large Mid-West Development company.

Jim is regularly commissioned by SCP to provide planning advice on their land and commercial portfolio in the mid-west region. Jim leads the preparation of Planning Appraisals, Development Plan submissions and planning strategy report with an objective of protecting and enhancing the planning asset.

Lead Planning Consultant for the development of 800 residential units in Kilbarry, Co. Waterford.

Services included preparation of EIAR for the overall masterplan development and submission of individual planning applications connecting to the future LIHAF road.

Lead Planning Consultant on the Coom Green Energy Park Strategic Infrastructure Development Project.

Project Director for the EIAR project which consists of a 27 no. turbine wind farm in North Cork. The project includes the preliminary design, public consultation and preparation and submission of application for approval to ABP.

Lead Planning Consultant on the Rosspile Solar Energy Park

Responsible for planning input into the project including a SID application for the 110kv electricity infrastructure and grid route.

Lead Planning Consultant and project director for 12 solar farm planning application nationwide

Jim was project director for a number of planning applications nationwide. Activities include pre-planning consultations with the local authority. Public Consultation events and preparation of design and planning and environmental reports.

Lead Planning Consultant for the Moanvane Wind Farm and Cable Route

Jim was project manager and lead planning consultant for the preparation and design of Moanvane Wind Farm and cable route in Co. Offaly. The scope of works included and EIAR, Preliminary design of the wind farm and cable route including a recreation and amenity trail.

Lead Planning Consultant for Drehid Wind Farm and Cable Route

Jim was project Director and lead planning consultant for the preparation and design of Drehid Wind Farm and cable route in Co. Kildare. The scope of works included and EIAR, Preliminary design of the wind farm and cable route including a recreation and amenity trail.

Foreshore License Cork Harbor

Jim was engaged by Port of Cork to prepare a Foreshore License pre-application consultation for Site Investigations within Cork Harbor.

Marine Spatial Planning

Jim was engaged by the Port of Cork to prepare a written submission on the National Marine Planning Framework.



Jim Hughes

Planner



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

2017

Lead Planning Consultant for Castletownmoore Wind Farm

Jim was lead planning consultant and project manager for this 21-turbine wind farm in Co. Kildare. Services included the preparation and submission of SID application. Pre-application consultations with ABP. Specialist planning advice into subsequent Judicial Review High Court case.

2016

Preparation and coordination of planning application for 50 no. dwelling units in Croom Co. Cork

Preparation of an integrated tourism masterplan for tourism site on the banks of the River Shannon Co. Clare. Preparation and submission of a masterplan for a tourism facility on the banks of the River Shannon in County Clare. The application included a number of short-term letting units, waste water treatment unit, tourism facilities and welfare facilities.

Preparation and submission of planning application for a recreation facility at the old Burlington Plan, Co. Clare.

Jim was retained by Zinc Properties to manage their property portfolio including developing masterplans for the redevelopment of their facilities.

2015

Planning Lead for Ballyvolane District Centre.

Services included preparation of an EIAR and the management and coordination of a design team for the An Bord Pleanála Oral Hearing.

2008 – 2014

SID Pre-Planning consultation with An Bord Pleanála for Local Authority Marina development in Cork.

Services include written submission to ABP for a determination on EIA and NIS requirements for the Marina Development.

Strategic Review of Dursey Island and Cable Car. .

In conjunction with AECOM and TDI, Jim prepared an overall economic and tourism development strategy for Dursey Island.

Bilberry Mixed Use Development Waterford.

Lead Planning Consultant and contribution to the EIS and planning submission for the regeneration of the south western docklands area of Waterford City. The scheme consisted of 11 no. development blocks ranging in height from one floor to thirty floors over basement level.

Old Ford Distribution Site Cork South Docklands.

Coordinated a multi-disciplined team of 5 Architects, preparation of EIS and planning submission for the largest planning scheme (Atlantic Quarter) ever received by Cork City Council. The scheme included 50,000 sq.m of office space, 500 residential units, hotel, event centre and retail.

Eastern Gateway Bridge and upgrade of Road infrastructure

Commissioned by Cork City Council to prepare an EIS and planning application for the redevelopment of the Cork South Docklands road infrastructure including the Eastern Gateway Bridge with Architects Wilkinson Eyre. The bridge connected the Cork South Docklands with the Lower Glanmire Road.



Eamon Hutton

Project Planner



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Eamon Hutton is a Project Planner with Fehily Timoney and Company and works as part of the Energy and Environment Team.

Eamon is a Chartered Town Planner with the Irish Planning Institute and holds a BSc in Spatial Planning and A MSc in City Planning and Regeneration which he received from the University of Glasgow. Eamon holds a Post-Graduate Diploma in Urban Design (University of Strathclyde).

Eamon has gained a wide range of experience with Fehily Timoney and Company, focusing on EIA, Wind, Solar and Residential Development.

Key Projects

- **Coom Green Energy Park, Co. Cork - (Ongoing)**
Contribution to EIAR including chapters: population and human health, alternatives, policy, consultation, introduction and interactions. Involved with public consultation including information nights, technical workshops and door to door consultation. 2018-2020
- **Croaghau Wind Farm, Co. Carlow - (Ongoing)**
Contributed to EIAR including chapters: population and human health, alternatives, policy, consultation, introduction and interactions.
- **Dernacart Wind Farm, Co. Laois**
Contributed to EIAR including chapters: alternatives and interactions.
- **Drehid Wind Farm, Co. Kildare**
Contribution to EIAR and planning statement for wind farm development. Scoping & consultation, population & human health, alternatives, interactions and planning statement.
- **Derrysallagh Grid Connection Substitute Consent, Co Sligo, Leitrim, Roscommon**
Input and preparation of a remedial Environmental Impact Assessment Report for substitute consent for the grid connection of the Derrysallagh Wind Farm. Landscape and policy assessment, interactions and non-technical summary. Preparation of planning application notices and documents.
- **Waterford Airport Runway Extension, Co Waterford**
Contribution to EIAR for Waterford Airport runway extension 2018/2020. Introduction, description of the development, policy, scoping and consultation, traffic and transportation, landscape and visuals and interactions.
- **Kilbarry Residential and Solar Park Development, Co Waterford**
Contribution to EIAR for a residential development of 750 dwellings and an adjoining solar park. Introduction, description of development, policy, population, human health and material assets, EIA screening, alternatives, interactions and non-technical summary. Preparation of planning documents and statutory notices.
- **OPW - Flood Risk Assessment & Management Plans - Department of Public Procurement.** Review of Strategic Environmental Assessment and Appropriate Assessment documents for the national Catchment Flood Risk Assessment & Management Plans produced by the OPW. Content and procedural Review of all 36 plans and environmental assessments.
- **Rosspile Solar Farm, Co Wexford - Highfield Energy**
Preparation of planning application and statutory notices as well as input to the environmental report for a c. 150ha solar farm in Co. Wexford.
- **Middleton House Solar Farm, Co. Longford**
Preparation of planning report, application documents and statutory notices. Planning consent granted August 2018.

Key Information

Qualifications

MSc City Planning & Regeneration,
University of Glasgow, 2016

Post Graduate Diploma in Urban
Development
University of Strathclyde, 2016

BSc Spatial Planning
Dublin Institute of Technology, 2012

Professional Memberships

Corporate Member of the Irish
Planning Institute

Employment History

2017- Present

Fehily Timoney & Company
Graduate Planner
Project Planner

June – August 2019

Brookfield Renewable Ireland
Secondment
Project Planner



Elaine Bennett

Senior Scientist/Community Engagement



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Elaine Bennett is a Senior Scientist and Project Manager with Fehily Timoney. Elaine has a PhD in Plant Ecology and a BSc in Biological Science from University College Cork and a Diploma in Environmental Impact Assessment. Elaine works in the Environment and Energy Department of Fehily Timoney and is experienced in project managing and co-ordination of Environmental Impact Assessment Reports, Environmental Reports, Ecological Assessments and Appropriate Assessments.

Elaine has excellent experience in the identification of constraints to development and the production of high-quality planning applications and associated documentation for environmentally sustainable and buildable infrastructure projects.

Project Role

Elaine is nominated as the deputy project manager and EIAR coordinator for the Ballydermot Wind Farm Project.

Elaine will work closely with Jim, our nominated project manager to ensure a seamless delivery of service to Bord na Móna. Elaine has managed and coordinated EIARs for several wind energy developments including Moanvane Wind Farm, Drehid Wind Farm and currently Dernacart Wind Farm – a summary of these projects are detailed below.

Key Skills

- Coordination and project management of wind farm planning applications
- Excellent interpersonal skills
- Experienced in the production of high-quality planning applications
- Experience in the production of EIARs and associated reports for a wide range of developments

Previous Experience Essentials for This Project

- **Dernacart Wind Farm (Statkraft) (2019 – ongoing).** Project Manager and EIA coordinator for the EIAR, NIS and planning application for the proposed Dernacart Wind Farm. This application consists of eight turbines with a tip height of up to 185m, near Mountmellick in Co. Laois. The proposed development also includes access tracks, substation, temporary compounds, MV and HV cabling as well as minor alterations to the public toad for the delivery of turbines.
- **Drehid Wind Farm (Statkraft) (Ongoing – FI Stage)** Project manager and coordinator for the EIAR and NIS for the proposed Drehid wind farm. This application comprised of 12 turbines with a tip height of up to 169m, near Johnstown Bridge, Co. Kildare. The proposed development also includes access tracks, substation, temporary compounds, MV and HV cabling as well as minor alterations to the public toad for the delivery of turbines. A recreational amenity trail was also proposed. The site consists of agricultural lands and forestry underlain by peat.
- **Moanvane Wind Farm (Element Power) (consented)**

Key Information

Qualifications

PhD in Plant Ecology, University College Cork. *“The Status, Ecology and Conservation of *Tuberaria guttata* (L.) Fourreau in Ireland”*

BSc (First Class Honours) Biological Science
University College Cork

Diploma (Environmental Impact Assessment)

Professional Memberships

CIEEM Full Member of the Chartered Institute of Ecology and Environmental Management

Employment History

Sept. 2016- Present

Fehily Timoney & Company
Senior Scientist

2015 – 2016

Atkins
Senior Environmental Consultant

2011 – 2014

EirGrid
Senior Ecologist

2007 – 2011

Mott McDonald Ireland Ltd.
Ecologist/Environmental Scientist

2007

White Young Green Environmental
Ecologist



Elaine Bennett

Senior Scientist/Community Engagement



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ENVIRONMENTAL SCIENCE & PLANNING

Co-ordination of EIS/EIAR for a proposed 12-turbine wind farm in Co. Offaly. This application comprised the proposed erection of 12 turbines with a tip height of 169m near Cloneygowan and Portarlinton, County Offaly. The proposed development also includes access tracks, substation, temporary compounds as well as minor alterations to the public road for the delivery of turbines. The EIAR also included an assessment of the proposed grid connection to the existing 110kV substation at Mountlucas, Co. Offaly. A significant element of the proposed development is the 'Moanvane Wind Farm Recreational Amenity Trail', which will consist of a looped trail c. 6 km in length which will be open to the public as a walkway and cycleway. The site contains an area of relatively flat farmland with areas of cutover peat bog and coniferous forestry. The majority of turbines are underlain by peat.

- **Derrysallagh Grid Connection (Derrysallagh Wind Farm Ltd.) (2018) (consented).**
Coordination of remedial EIAR/EIS for the partly constructed grid connection works and preparation of planning applications and EIARs/EISs for outstanding grid connection works.
- **Raragh Cable (Raragh Development Ltd.) (2017) (consented).**
Environmental coordinator of EIS and preparation of ecological impact assessment and Stage 1 Screening for Appropriate Assessment of the proposed cable development between the permitted Raragh Wind Farm and the electricity substation at Kingscourt, Co. Cavan.
- **Killarney Quarry (M.F. Quirke and Sons) (Ongoing).**
Project manager and environmental coordinator for the EIAR for the continuance of use of an existing quarry and proposed extension in Killarney, Co. Kerry.
- **Ballymoney Solar Farm (BNRG Renewables Ltd. (2018 – 2019) (consented).**
Planning application and ER coordinator for the Environmental Report supporting a planning application for a proposed 10MW solar farm in Co. Wicklow.
- **Carragraigue Solar Farm Extension (BNRG Neoen Holdings Ltd.) (2018) (consented).**
Project Manager and environmental coordinator for planning application including Planning and Environmental Report for a solar farm extension in Carragraigue, Co. Cork.
- **Derragh Substation (Enerco) (2017) (consented).**
Coordinator of the planning application with Environmental Report and Stage 1 Screening for Appropriate Assessment of a proposed new substation for Derragh Wind Farm.
- **Johnstown North Solar Farm (BNRG) (2018) (consented).**
Environmental coordinator for the Environmental Report supporting a planning application for a proposed 20MW solar farm in Co. Wicklow.
- **Bandon Waste Water Treatment Plant Upgrade (Irish Water)**
Environmental project manager for the upgrade of Bandon Waste Water Treatment Plant. Responsible for procurement of specialists, coordination of assessments and reporting including EIA screening, Screening for Appropriate Assessment, invasive species assessment, landscape and visual, cultural heritage, noise and vibration, air quality and odour.
- **Cork Lower Harbour EIS (80,000PE) (Cork County Council)**
Co-preparation of the EIS for a new 80,000 PE WWTP and pipeline infrastructure. Responsibilities included the review of sub-consultants technical reports and preparation of the following EIS chapters: Flora and Fauna, Water Quality and preparation of Socio-Economics (Human Beings & Material Assets) chapters. Received consent from An Bord Pleanála under Strategic Infrastructure without the requirement for an Oral Hearing.

Previous Appropriate Assessment Experience

- **Cúil na Móna (Bord na Móna).** FT prepared a planning application, EIAR, Stage One Screening Report for Appropriate Assessment and a NIS for a 80,000 tpa renewable gas facility at Cúil na Móna, Portlaoise, Co. Laois. The proposed development area totals 17.34 Ha and comprised of a renewable gas facility, external road upgrades and internal site access road. Elaine managed the ecological impact assessment, Stage 1 AA Screening and NIS.
- **Strategic Infrastructure Development (SID) Application for Proposed Development at Knockharley Landfill** - Elaine carried out a Stage 1 Screening for Appropriate Assessment and Natura Impact Statement for the proposed development at Knockharley landfill to support the SID application.
- **Wicklow Solar Farm (BNRG Renewables Ltd.).** Ecological impact assessment including habitat and protected species assessment of the proposed solar farm near Rathnew in Co. Wicklow. A Stage 1 Screening for Appropriate Assessment was also conducted to examine the potential for impacts on European Sites.



Elaine Bennett

Senior Scientist/Community Engagement



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

- **EirSpan - Sligo and Leinster Bridges Maintenance Works (NRA)** – Stage 1 Screening for Appropriate Assessment of maintenance works on bridges in Sligo (51 bridges) and Leinster (8 bridges). Desktop assessment and risk assessment of the proposed works with reference to the qualifying interests and special conservation interests of Natura 2000 sites in proximity to the proposed works.
- **Cappamore and Caherconlish Appropriate Assessments (Limerick County Council)** - Appropriate assessments were conducted for waste water discharges from Cappamore and Caherconlish WWTPs. The discharge from Cappamore WWTP is to the Mulkear River which forms part of the Lower River Shannon SAC and the discharge from Caherconlish WWTP is to the Groody River which discharges into the Lower River Shannon SAC.
- **Rathvilly and Hacketstown Appropriate Assessments (Carlow County Council)** - Appropriate Assessments for waste water discharges from the proposed upgraded WWTPs at Rathvilly and Hacketstown. The discharge from Rathvilly WWTP is to the River Slaney and the discharge from Hacketstown WWTP is to the River Derreen. Both discharges are to the Slaney River Valley SAC.
- **Annaghroe and Knockaginny Bridges Appropriate Assessment (Monaghan County Council)** - Conducted an ecological assessment (habitat mapping and botanical assessment) and appropriate assessment for the reinstatement of two cross-border bridges at Annaghroe and Knockaginny. The original bridges, which provided cross-border access across the River Blackwater between Counties Monaghan and Tyrone, were removed in the 1950s and 1970s.
- **Grand Canal Scheme (Irish Water)** – Stage 1 Screening for Appropriate Assessment of a proposed sewerage scheme at the Grand Canal, Dublin. The works to be assessed new foul and storm sewers for the proposed development at the eastern end of the Northern Quay of Grand Canal Dock in Dublin City Centre. These proposed sewers will tie in with newly existing development on the western end of the Northern Quay of Grand Canal Dock. It has also been proposed that an additional watermain will be installed during the works. It is proposed to install all pipes within the public road in a one stepped depth trench.
- **Stage 1 Appropriate Assessment of Drainage Works (Tipperary County Council)** – Stage 1 Screening for Appropriate Assessment of proposed drainage works in seven areas within Co. Tipperary. The drainage works comprised dredging river channels clear of recent silt deposits, flood debris and fresh vegetation by a tracked excavator working in the direction of flow so as to minimize impacts on the downstream aquatic environment.
- **Waterford City Wastewater Discharge Appropriate Assessment (Waterford City Council)** - An Appropriate Assessment was conducted for the effluent discharge from the newly constructed wastewater treatment plant in Waterford City. The appropriate assessment was required as the treated effluent from the wastewater treatment plant discharges into the Lower River Suir candidate special area of conservation (cSAC).
- **Youghal Main Drainage (Dunn's Park Overflow Pipeline) (Irish Water)** – Stage 1 Screening for Appropriate Assessment of proposed overflow pipeline from Dunn's Park pumping station. Natura 2000 sites of relevance were River Blackwater (Cork/Waterford) SAC and Blackwater Estuary SPA.
- **Spa Bridge and Killeen Bridge, Co. Laois (Laois County Council)** – Stage 1 Screening for Appropriate Assessment of emergency maintenance works at Spa Bridge and Killeen Bridge, Co. Laois.
- **M11 Waste Facilities (M11 EJV)** – Biodiversity assessments and Stage 1 Screening for Appropriate Assessments of five proposed waste facilities in Co. Wexford as part of the M11 scheme.



Donna O'Halloran

Project Scientist



CONSULTANTS IN ENGINEERING
& ENVIRONMENTAL SCIENCES

Profile

Donna O'Halloran is a Project Environmental Scientist with four years' experience and works on energy, waste and urban planning related projects. Donna has a comprehensive knowledge of Air and Climate Change impact appraisal as part of Planning and Environment Reports, Environmental Impact Assessment Reports (EIAR) as well as a comprehensive knowledge of air and climate related international and national legislation and international agreements. Donna's key skills include traffic emission modelling (DMRB) and carbon calculation modelling. Donna also has experience and skills in ecology.

Donna holds two first class honors Masters of Science; one in Environmental Resource Management from University College Dublin, Ireland and the other in ecological assessment from National University of Ireland, University College Cork. Donna has a background in horticulture and landscape architecture.

Key Skills and Projects

- **Air and Climate Change Impact Appraisal for Wind Farm EIARs:**
Air and Climate Change Impact Appraisal as part of EIAR is assessed according to the NRA's (now TII) '*Assessment Criteria for the impact of dust emissions from construction activities with standard mitigation*'. Carbon balance of windfarms is calculated using the Scottish Windfarm Carbon Calculating tool. Traffic emissions are calculated where the DMRB (UK Highways Agency) threshold is met. And the UK Highways Agency's tool is used.
 - Slaghbooly Wind Farm, Co. Clare
 - Castletownmoor Wind Farm, Co. Meath
 - Ballymanus Wind Farm, Co. Wicklow
 - Ballymanus Wind Farm, Co. Wicklow
 - Raragh Wind Farm underground 20KV Grid Connection, Co. Cavan & Co. Meath
 - Windfarm in Co Cork, (preplanning stage).
- **Air and Climate Change Impact Appraisal for Non Wind Farm projects EIAR or Environmental Reports for planning.**
Traffic emission (DMRB) modelling has been carried out where thresholds have been met:
 - Proposed Waste Transfer and Processing Facility, Co Laois
 - Waste Soil Recovery Facility Kilquade, Co Wicklow
 - Millennium Park Landfill Extension, Co. Dublin
 - Overhead Line, midlands
 - Solar Farm Co. Wexford
 - Soil Backfill Facility, Co. Limerick
 - Battery Storage Facility, Co. Cork
 - Kilpaddoge Peaker Plant, Co. Kerry
 - Mishells Battery Storage, Co. Cork
 - Barnahely Battery Storage, Co Cork
 - Soils Recovery Facility and Eco Park, Co. Wicklow
 - Glenbeigh Greenway, Co. Kerry.

Key Information

Qualifications

- MSc. Ecological Assessment (First Class Honors),
University College Cork, 2014
- MSc. (Agr.) Environmental Resource Management (First Class Hons)
University College Dublin, 2007
- BSc. (Agr.) Landscape Horticulture (Hons),
University College Dublin, 2006
- National Diploma in Horticulture,
National Botanic Gardens/ITB, Dublin
2004

Employment History

2015- Present

Fehily Timoney & Company
Project Ecologist

2011 – 2014

Heronswood Childcare Centre, Cork
Assistant Supervisor

2010 – 2011

Little Hands Childcare and Early Learning Centre, Cork
Assistant

2007 – 2008

Mitchell & Associates, Cork
Landscape Architect

2006

Brady Shipman Martin, Cork
Landscape Architect Assistant

2001 – 2004

National Botanic Gardens, Dublin
Student Gardener

2001 – 2003

Carewood Garden Centre, Cork
Sales Assistant



Crystal Leiker

Planner



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Crystal is a member of the RTPI (licentiate) and IPI (graduate) and is currently working towards becoming a chartered planner. She has experience of working in team structures and project management. Crystal has completed 3-4 years of planning experience in both the public and private sector. Additionally, the work experience she obtained prior to training as a planner provides her with an extensive range of complementary skills for a professional workplace environment.

Key Skills

Crystal has experience in the following:

- Statutory Planning
- EIAR, EIA, and Section 5 for industrial facilities
- Project Management
- ArGIS 10.5.1
- Statutory Public Consultation
- Oral Hearing experience.

Previous Experience Essentials For This Project

Statutory Planning

- Preparation of Local Area Plans SEA and Environmental Reports
- Stakeholder engagement
- Statutory public consultation
- Community workshops

Callan Local Area Plan 2019-2025, Shannon Masterplan
Pilgrim Way Masterplan

Department of Education

Project management, Planning, Land use, Appeals for the provision of additional education facility space, open space provision for the Department of Education in Co. Wicklow.

Land Use Planning

Planned, managed and coordinated Cork City Employment and Land Use Survey (utilizing ArcGIS for live map updating of business information) which informed economic development and land use policy for Cork City's Forward Planning section

Tourism Planning

Involved in inception/design of several large-scale tourism developments where my duties included:

- Project management
- EIAR coordination
- socio-economic analysis
- stakeholder engagement
- public consultation
- oral hearing experience

Key Information

Qualifications

- MPlan, University College Cork, 2016
- BSoc.Sc., University college Cork, 2014

Employment History

2019 - Present

Fehily Timoney and Company
Planner

Feb. 2019 – August 2019

SLR Consulting

April 2017 – February 2019

Cunnane Stratton Reynolds

May 2016 – Oct. 2016 & Jan 2017

Cork city Council – Policy Planning
Directorate.



Crystal Leiker

Planner



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Project Management

- EIAR Production and coordination
- Local Area Plan report production
- Team management
- Planning strategy
- Planning application lodgments,
- Schedules of Environmental Commitments,
- Coordination of submission responses
- Further Information.

ArcGIS

Utilisation of ArcGIS 10.5.1 for the provision of

- Socio-economic analysis
- Spatial analysis to inform public consultation, stakeholder engagement, community workshops
- preparation of maps for Local Area Plans, Tourism Masterplans and Land Use survey work,
- metadata analysis



Dr. John Mahon

Senior Acoustic Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

John is a Senior Acoustic Engineer with Fehily Timoney & Company. He has a PhD in Acoustics and Vibration and a BA BAI (Hons) degree in Mechanical Engineering from Trinity College Dublin. He is a member of Engineers Ireland and the Institute of Acoustics.

John has over 13 years' experience in acoustics & vibration and has an extensive knowledge and experience in the measurement, prediction and analysis in the field of acoustics and vibration including excellent knowledge of acoustics and vibration legislation, policy and standards at EU and Irish levels. John's primary experience is in environmental noise including measurement and prediction of industrial noise, wind farm noise and road noise. He has completed noise modelling, measurements and assessments for road schemes, wind farm developments, construction projects and industrial sites. He also has significant experience in assessing the acoustic performance of noise barriers and he sits on the Irish and European Committees for Standardization CEN/TC226/WG 6 (Road traffic noise reducing devices).

Previous Experience Essentials For This Project

Key Projects

- Noise Impact Assessments for Wind Farms**
 Undertook noise impact assessments for wind farm projects including background noise assessments, noise predictions for construction and operational phases, compliance noise assessments and noise complaint investigations. He was also responsible for the preparation of environmental impact statements, technical reports and consultation with county councils.

Cordal Wind Farm	Meenwaun Wind Farm
Ballagh Wind Farm	Drehid Wind Farm
Mauricetown Wind Farm	Castletownmoor Wind Farm
Acres Wind Farm	Sigatoka Wind Farm
Cordal Wind Farm	Coolegrean Wind Farm
- Multiple Noise Impact Assessments**
 He was involved in the submission of multiple noise impact assessments ranging from waste transfer facilities, seaweed processing plants to breweries and visitor centres. These noise impact assessments required attended and unattended baseline measurements as well as carrying operational and construction noise predictions and assessing the predicted noise levels against appropriate noise limits. In some instance mitigation measures were required in order meet noise limits.
- Offline Motorway Service Areas**
 Noise lead on numerous planning applications for offline motorway service areas. Prepared noise and vibration impact assessments for construction and operational phases. Managed baseline monitoring, modelling of road traffic and industrial noise sources, preparation of technical reports and mitigation design.
- Aberdeen Western Peripheral Route (AWPR)**
 Responsible for evaluating the noise impact of the amendment of the road alignment between the specimen design and conceptual design for the Fastlink section of the Aberdeen Western Peripheral Route. This involved noise modelling in accordance with CRTN of the Fastlink section of the AWPR and incorporating mitigation measures to satisfy Transport Scotlands' design goals.

Key Information

Qualifications

PhD in Acoustics & Vibration,
Trinity College Dublin, 2008

Vibration Analysis – ISO 18436-2
Certification,
Mobius Institute Board of
Certification

BA BAI (Hons) Mechanical
Engineering,
Trinity College Dublin, 2004

Professional Memberships

Member of Engineers Ireland

Member of Institute of Acoustics.

Employment History

2016- Present

Fehily Timoney & Company
Senior Acoustic Consultant

2008 – 2015

Infrasonic (Acoustics & Vibration
Consultancy), Dublin
Position

2008 – 2013

Trinity College Dublin
Position

Employment History

Contributed to a Good Practice
Guidance for the Treatment of Noise
during the Planning of National Road
Schemes. Appendix B – Good Practice
Guide for Noise Barrier Design March
2014

Multiple Academic Journal and
Conference publications on Flow
Induced Noise & Vibration, Noise
Barriers and Noise Source
Identification Techniques



Dr. John Mahon

Senior Acoustic Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

- **M8 M73 M74 Motorway Improvements**

Responsible for checking the noise performance parameters of environmental noise barriers to be used in the motorway improvement scheme.

- **Noise Assessments at 42 Above Ground Installations, Gas Networks Ireland**

Managed a team who carried out environmental and occupational noise monitoring at 42 above ground installation sites. All sites were assessed against environmental noise limits and occupational noise criteria.

- **Compliance Noise Surveys**

Undertook noise monitoring and licence compliance work for EPA licensed landfill and waste facilities, greenfield waste sites and other commercial facilities including data analysis and preparation of technical reports. Carried out reviews of technical reports prepared as part of EPA licensed facilities requirements.

- **Multiple Noise Impact Assessments**

He was involved in the submission of multiple noise impact assessments ranging from waste transfer facilities, seaweed processing plants to breweries and visitor centres. These noise impact assessments required attended and unattended baseline measurements as well as carrying operational and construction noise predictions and assessing the predicted noise levels against appropriate noise limits.

- **Remedial EIS – Lacken Stone**

Noise lead in the preparation of a remedial EIS for Lacken Stone Quarry. He was responsible for the preparation of noise and vibration aspects of the environmental impact statement, including measurement of baseline noise levels, measurement of operational noise levels and noise predictions.



AREAS OF EXPERTISE

| Vegetation Surveys and Plant Identification | Habitat Surveys | Bird Surveys | Aquatic Ecology | Ecological Clerk of Works

PROFILE

Donncha is an Ecologist and Graduate Member of the Chartered Institute of Ecology and Environmental Management. He holds First Class honours M.Sc. in Ecological Assessment and a B.Sc (Hons) in Environmental Science. Donncha has a broad range of expertise within the Ecology sector, including aquatic ecology, botany and habitat assessment, and expertise in undertaking Ecological Clerk of Works (ECoW). Donncha also has experience undertaking a range of reporting including the completion of AA Screening Reports, NIS, and EclA reporting

PROFESSIONAL ACCREDITATION

Graduate Member of the Chartered Institute of Ecology and Environmental Management (GradCIEEM)

EDUCATION

MSc Ecological Assessment (1.1) 2012 - 2013, UCC

B.Sc. (2.1) Environmental Science 2007-2012 NUI Galway

CAREER HISTORY

May 2018 – Present – INIS Environmental Consultants Ltd. Ecologist.

2015 – 2018 – ENSEN Environmental Ltd. – Environmental Scientist

2014 – 2015 – Intern for Biological Data – Marine Institute

ADDITIONAL QUALIFICATIONS

SOLAS – Safe Pass

Sea Survival Training Certificate STCW95

First Aid Certificate (STCW 95)

National Powerboat Certificate (level 2)

Irish Sailing Association Commercial Endorsement Category B (Powerboat)

BSBI Field Identification Skills Certificate – Level 4

RECENT EXPERIENCE

Meelick Weir Reconstruction and Upgrade Works April 2019 - present

Ecological Clerk of Works (ECoW) on a nationally significant project involving civil works in an ecologically sensitive aquatic environment located on the River Shannon – Responsibilities include ensuring all works are carried out to the highest environmental standards and current environmental Best Practice through monitoring, policing and reporting on compliance to the project Construction Environmental Management Plan

Lahinch Promenade Refurbishment Works March 2019 - present

Ecological Clerk of Works (ECoW) on construction works in the foreshore environment. Responsibilities include ensuring adherence of contractors to site environmental controls. Carrying out regular site audits to ensure works potentially hazardous to the marine environment are carried out in accordance with Best Practice.

Boolynagleragh Wind Farm Overhead Line October 2018 - present

Ecological Clerk of Works (ECoW) on the installation of an overhead line on an upland site in Co. Clare. Responsibilities included reviewing subcontractor RAMS and Environmental procedures in the pre-construction phase to ensure compliance with current environmental Best Practice and legislation. Actively monitoring civil works through regular site audits and policing of works in ecologically sensitive aquatic and terrestrial habitats. Generating high-quality weekly audit reports.

Knockacummer Windfarm Post-Construction Monitoring May 2018 - present

Ecologist – Carrying out bird surveys including vantage point and breeding bird surveys. Reporting on findings and monitoring the implementation habitat management prescriptions and mitigation,



RECENT EXPERIENCE (Contd.)

Aquatic Ecologist, Lough Derg Monitoring Project, Tuamgraney Co. Clare 2015 - 2018

Field sampling of lake phytoplankton and Zooplankton. Microscopical analysis of biological samples in the lab. Routine lake and river water quality sampling. Servicing and calibration of water quality instrumentation. Carrying out river flow profile surveys.

Intern for Biological Data, Marine Institute, Newport Co. Mayo 2014 - 2015

Field sampling of eel and juvenile salmonids (electrofishing). Identification and enumeration of phytoplankton and Zooplankton. Multivariate statistical analysis of river and lake ecological data using R and Primer packages.

PUBLICATION RECORD

de Eyto, E., Kelly, S., Ryder, E., Dillane, M., Archer, L., O'Cathain, D., Daly, S., Lyons, K., Obrador, B., Brentrup, J. and Naumoski, A., 2019. High frequency monitoring reveals fine scale spatial and temporal dynamics of the deep chlorophyll maximum of a stratified coastal lagoon. *Estuarine, Coastal and Shelf Science*, 218, pp.278-291.

EDUCATION

MSc Ecological Assessment (1.1) 2012 - 2013, University College Cork

B.Sc. (2.1) Environmental Science 2007-2012
National University of Ireland Galway

CAREER HISTORY

May 2018 – Present – INIS Environmental Consultants Ltd. Ecologist.

2015 – 2018 – ENSEN Environmental Ltd. – Aquatic Ecologist

2014 – 2015 – Intern for Biological Data – Marine Institute



AREAS OF EXPERTISE

Senior Project Management | Environmental Impact Assessment and Reporting (EIAR) | Appropriate Assessment | Ecological Clerk of Works (ECoW) | CEMP Design | Bird Survey Design | Avian Impact Assessments | Fisheries Assessments | Aquatic Macroinvertebrates | Bat Survey Design and Implementation | Protected Species Evaluation | Marine Mammals | Management and implementation of Ecological Monitoring Programmes | Treatment of Invasive Species | Marsh Fritillary

PROFILE

Howard joined ESB as a biologist in 1998. In 2000, he established INIS Environmental Consultants Ltd. where he now acts as CEO and Principal Ecologist. He is a Chartered Environmentalist, Chartered Biologist and member of the Institute of Fisheries Management. Howard has written and managed Article 6 Appropriate Assessments and Ecological Impact Assessments, Construction Environmental Management Plans and Compensatory Habitat Management Plans for over 70 energy projects in Ireland and the UK. Howard is an expert in the field of fisheries and avian ecology in addition to having considerable knowledge and experience producing management strategies/prescriptions for a range of protected species, both terrestrial and aquatic. As an expert in his field, Howard has published scientific papers on Fisheries, Waterbirds and Water Chemistry Analysis and the implementation of Species Habitat Management Plans in peer reviewed journals and is currently compiling papers on fatality monitoring strategies at wind farm facilities.

RECENT RELEVANT EXPERIENCE

Currently working on 23 energy projects at pre planning and construction stage throughout Ireland ranging from Offshore, Intertidal, major HV grid infrastructure, energy storage facility, solar farms and wind farms. He oversees the completion of 200 ecology site survey days per month at these sites.

Coom Green Energy Park (SID), Co. Cork

Lead Ecologist – Responsible for design and oversight of all pre-planning surveys at the proposed SID wind farm. He is solely responsible for identifying all ecological constraints to inform project design and future construction activities. He has overseen the high profile consultation process between the client, Brookfield and NPWS and IFI.

Irish Sea Offshore Windfarm Project

Mr. Williams recently oversaw all marine boat based seabird surveys to Best Practice requirements (ESAS Methodology) including, at sea boat based bird surveys at a proposed offshore renewable energy development site in the north Irish Sea.

Upperchurch (Mountphillips) 110kV Grid Connection (SID), County Tipperary

Lead Ecologist for the largest private grid infrastructure project in Ireland in 2018. This SID project has been under Mr. Williams' professional direction since 2014. INIS has completed 400 survey days in support of this project. Mr. Williams designed all survey protocols for all baseline ecology studies in respect of all terrestrial flora and fauna. He is responsible for the following on this project: Cumulative effects; EIAR and Appropriate Assessment reporting; Ecological mitigation design including for breeding Hen Harrier, Invasive species and HDD / Augur boring within EU designated sites; Management plans in respect of Marsh Fritillary, Hen Harrier and Invasive species (specifically Japanese Knotweed); review of third party RAMS/Outline Construction.

PROFESSIONAL ACCREDITATION

Chartered member of the Royal Society of Biology (CBiol)

Chartered member of the Society for the Environment (CEnv)

Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM)

Full member of the Institute of Fisheries Management (MIFM)

EDUCATION

BSc. Biological Sciences (1993 – 1997)
National University of Ireland, Cork

ADDITIONAL QUALIFICATIONS

JNCC - Registered Marine Mammal Observer (MMO)
BCT - Trained Bat Surveyor
BTO - Trained Bird Ringer
ESB Networks – Electrical Safety Rules
MI – Pelagic Sea Safety Course
SOLAS – Safe Pass
Manual Handling Course

CAREER HISTORY

2000 to Present - INIS Environmental Consultants Ltd. CEO/Principal Ecologist

1998 to 2000 - ESB Fisheries Conservation Unit. Senior Biologist



PROFESSIONAL ACCREDITATION

Chartered member of the Royal Society of Biology (CBiol)

Chartered member of the Society for the Environment (CEnv)

Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM)

Full member of the Institute of Fisheries Management (MIFM)

EDUCATION

BSc. Biological Sciences (1993 – 1997)
National University of Ireland, Cork

ADDITIONAL QUALIFICATIONS

JNCC - Registered Marine Mammal Observer (MMO)
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ESB Networks – Electrical Safety Rules
MI – Pelagic Sea Safety Course
SOLAS – Safe Pass
Manual Handling Course

CAREER HISTORY

2000 to Present - INIS Environmental Consultants Ltd. CEO/Principal Ecologist

1998 to 2000 - ESB Fisheries Conservation Unit. Senior Biologist

Glenties to Gweedore 110kV Construction, County Donegal

Lead Ecologist - Construction Stage ensuring all construction activity on this 44km project adheres to the Ecology Protocol document/planning conditions which were designed specifically for projected bird species, water quality and sensitive habitats both within and outside highly sensitive designated sites.

Knockacummer Wind Farm, County Cork

Commissioned as Lead Ecologist on the 38 turbine Knockacummer Wind Farm – the first wind farm in an SPA in Ireland. Oversaw construction process with NPWS to ensure the success of this project. Designed the Compensatory Habitat Management Plan, which outlines the specific lands to be managed and also identifies proven Hen Harrier habitat management protocols to be employed for the lifetime of the project.

Fatality monitoring at 9 Wind Farms

Designed and conducted Ireland's first fatality monitoring programme using specially trained dogs to enhance carcass detection under operational wind turbines. He presently carries out this service at 9 wind farms nationally. This service is unique to INIS.

Bord Gáis Combined Cycle Gas Turbine, County Cork

Mr. Williams produced, implemented and managed the Construction Commissioning Phase Environmental Management System (EMS) for the Bord Gáis Whitegate IPP 450MW Combined Cycle Gas Turbine in County Cork. INIS Environmental Consultants Ltd. was contracted by the GE Energy and GAMA Power Systems Inc. consortium to design a robust construction and commissioning stage site EMS. The EMS produced was a highly detailed document that dictated the environmental procedures and control measures for all construction and commissioning works onsite to ensure legal and regulatory compliance and a commitment to Best Practice. From the outset this EMS was designed to meet Integrated Pollution Prevention and Control (IPPC) requirements.

Management

INIS Environmental Consultants Ltd. was the lead environmental management onsite, directly overseeing the day-to-day environmental compliance of 15 main subcontractors and over 700 personnel. This involved rigorous auditing schedule and a strong site presence/daily presence in weekly EHS meetings and weekly senior level EHS workshops.

Training

Each operative, both office and site based received an environmental management induction, which was well received, for being very informative and effective, from all main contractors including Bord Gáis. INIS Environmental Consultants Ltd. also conducted on-site environmental training in relation to Spill Response, Hazardous Waste Handling and Disposal and Waste Management. INIS Environmental Consultants Ltd. oversaw the successful ISO 14001 certification by Bureau Veritas auditors in relation to site activities.



We are responsible for all audit aspects e.g. documentation readiness, evaluation of compliance, register of legislation and on-site audit and site verification.

Connemara 110kV Construction - Salthill to Screeb County Galway

Lead Ecologist responsible for completing the Construction Environmental Management Plan and Health and Safety Plan for this project which had 5 SAC/SPA designations along the route.

Bord na Móna Bat Survey, County Offaly – Client Bord na Móna

Lead Ecologist on Ireland's largest bat monitoring project. This project covered 22,000 ha and provided an in depth analysis of bat presence and distribution within cutaway bogs. Mr. Williams recorded 35,000 bats during this survey.

Glencarby Wind Farm, County Tipperary

Lead Ecologist – Responsible for design and oversight of all pre-planning surveys at the now constructed wind farm. He designed the Compensatory Habitat Management through consultation with Dr Jervis Good, NPWS.

M18 Lesser Horseshoe Bat Hibernaculum, Count Clare – Client GAMA

Designed a state-of-the-art bat house in Europe for Clare County Council on the Ennis Bypass. This was designed specifically for lesser horseshoe bats and cost in excess of €350,000 to build and fit out. Compiled a report on the efficacy of the static remote survey equipment over two years. All survey results were disseminated through Clare County Councils website.

PROFESSIONAL ACCREDITATION

Chartered member of the Royal Society of Biology (CBiol)

Chartered member of the Society for the Environment (CEnv)

Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM)

Full member of the Institute of Fisheries Management (MIFM)

EDUCATION

BSc. Biological Sciences (1993 – 1997)
National University of Ireland, Cork

ADDITIONAL QUALIFICATIONS

JNCC - Registered Marine Mammal Observer (MMO)
BCT - Trained Bat Surveyor
BTO - Trained Bird Ringer
ESB Networks – Electrical Safety Rules
MI – Pelagic Sea Safety Course
SOLAS – Safe Pass
Manual Handling Course

CAREER HISTORY

2000 to Present - INIS Environmental Consultants Ltd. CEO/Principal Ecologist

1998 to 2000 - ESB Fisheries Conservation Unit. Senior Biologist

PUBLICATIONS

Williams, H., Doherty, D., O'Farrell, M. and O'Maoileidigh, N. (2000) River Erne Salmon (*Salmo salar*): upstream passage of adults at Cathaleen's Fall and Cliff generating stations. Erne Salmon Management Programme. Published by The Northern Regional Fisheries Board. Funded by: EU INTERREG II Sub-Programme (iv) Agriculture/Fisheries/Forestry.

Williams, H. (1999) The Burren Conservation Trust News Magazine. Water Chemistry Analysis of the Caher River. No.12

Williams, H. (1997) The Burren Conservation Trust News Magazine. The Wintering Bird Population of the Caher valley. No.8

Williams, H. (1997) Department of the Environment, Cork City Council. Fish Stocks, Avian Diversity, Plant Diversity and the Underlying Geology of the Lough, Cork City

Williams, H. & Kelly, T.C. (pending publication) Piscivorous birds of the River Lee Catchment.



AREAS OF EXPERTISE

| Freshwater Ecology | Terrestrial Ecology | Appropriate Assessment | Ecological Impact Assessment | Alien Invasive Plant Species Surveys | Bat Activity Surveys

PROFILE

Joao is an Ecologist with 8 years' experience in freshwater monitoring of both lotic and lentic systems. He has worked on the EU Water Framework Directive (WFD), e.g. macroinvertebrates, habitat/hydromorphology, and on other freshwater projects of scientific nature, in Germany, Portugal and Ireland.

As a researcher under the UCD Earth Institute (2011-2016), Joao used his extensive experience in freshwater monitoring within the WFD for the collection and analysis of data from several catchments in Ireland relating it to freshwater ecology and the hydromorphological consequences of human alteration (e.g. water abstraction). He has also collaborated with different research groups within the UCD Dooge Centre for Water Resources Research involving other hydromorphological research projects (e.g. EPA Siltflux). Working with the EPA in 2017, Joao was responsible for developing a review on the WFD Monitoring Programme on lakes. His skills in GIS application, screening and analysis of extensive monitoring data on Irish lakes, as well as hydromorphological field assessments, supported accurate, up to date and useful data input in relation to lakes throughout Ireland on to the EPA internal system.

Over the past 4 years, Joao has played increasingly important roles in the preparation of screenings for Appropriate Assessment (AA), Natura Impact Statements (NIS), Ecological Impact Assessments (EIA) and Environmental Impact Assessment Reports (EIAR). Joao has also been a team member in the Irish Water project - Lead in Drinking Water Mitigation Plan, beyond being involved in specific field surveys, as of Invasive Alien Plant Species, Bat Activity, Habitats, Mammals, amongst others.

ADDITIONAL QUALIFICATIONS

Manual Handling (2019)

Safe Pass (2018)

Appropriate Assessment – purpose, process and pitfalls, NBDC (2018);

Technical Report Writing, Engineers Ireland, (2018)

Personal Survival Techniques (2017)

PROFESSIONAL ACCREDITATION

Full membership on the Institution of Environmental Sciences (MIEnvSc)

EDUCATION

M.Sc. Environmental Engineer (Freshwater ecology), Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal (2009)

B.E. (Hons.) Environmental and Natural Resources Engineering, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal (2007)

CAREER HISTORY

September 2019 – Present
– INIS Environmental Consultants Ltd. Ecologist.

Oct. 2016 – September 2019
RPS, Ireland

September 2011 – October 2016 – Freshwater Researcher PhD candidate - University College Dublin

2012 – Present Employer:
Freelance Translator

May 2011 – Jul 2011
Employer: Aqualogus, Lisbon, Portugal

Aug 2009 – Feb 2011
Universidade de Trás-os-Montes e Alto Douro, Portugal

Jan 2009 – Jul 2009 Employer:
Leibniz-Institute of Freshwater Ecology and Inland Fisheries Germany



AREAS OF EXPERTISE

Ecology Specialist | Project Management | Environmental Impact Assessment and Reporting (EiAR) | Appropriate Assessment | Ecological Clerk of Works (ECOW) | Bird Survey Design | Avian Impact Assessments | Fisheries Assessments | Aquatic Macroinvertebrates | Flora and Habitat Survey | Protected Species Evaluation | Marine Mammals | Management and implementation of Ecological Monitoring Programmes | Treatment of Invasive Species | GIS | ESAS Seabird at Sea

PROFILE

Roger is a qualified and experienced environmental consultant specialising in ecology. He has over eighteen year's professional experience in the environmental consultancy sector and an additional seven years of primarily research-based experience in freshwater and marine ecology. He specialises in the delivery of Ecological Impact Assessment (EclA) and Appropriate Assessment (AA) for a broad range of projects potentially affecting; terrestrial, freshwater and marine ecology. His renewable project related experience to date includes; 35 terrestrial wind farms, two marine wind farms, five solar farms, two 400kV overhead lines, five 110kV overhead lines, overhead line uprates, electricity substations and underground power cables. He also has extensive additional experience of ecology assessments for quarries, commercial development, water discharges and roads. His experience has been gained in Ireland, Northern Ireland and Scotland. He has worked for companies including Natural Power, Tobin Consulting Engineers and Ervia. At Inis Environmental Consultants, Roger is the principal ecologist.

RECENT RELEVANT EXPERIENCE

Appropriate Assessments (AA)

Over his career, Roger has delivered numerous AA reports (Screening and Natura Impact Statements (NIS)). Most required considerable expertise in avian, freshwater species, terrestrial habitats, and flora features of interest in Natura 2000 sites. On behalf of Irish Water he recently (2020) conducted AA risk assessments for 100's of potential water abstractions to inform the National Water Resources Plan. He also recently (2020) managed AA reporting for the proposed Water Supply Project. He has drafted NIS for projects including North South 400kV Interconnector, Bruckana windfarm, Lisheen 3 Windfarm, five new 110Kv projects, 5 solar projects, numerous wastewater discharge licenses.

European/Irish Environmental Planning Requirements & Regulations

Roger has an excellent understanding of European environmental planning requirements e.g. Habitats Directive and relevant Irish Wildlife legislation. He has been the lead ecologist managing all biodiversity services for planning, post consent, construction and operational stages of several projects. He has completed numerous reviews and approvals of internal and third-party ecology reports. Roger has conducted numerous due diligence reviews of AA and EIA reporting and environmental related planning conditions on behalf of potential project buyers.

Invasive, Habitats & Botanical Surveys and Assessments

Roger has attained considerable experience in habitat assessment and botanical survey, evaluation and assessment to inform EclA, habitat restoration, biodiversity action plans and invasive species management. Projects include North South 400kV interconnector, Grid West, Five 110kV powerline projects and associated infrastructure, road schemes (Limerick N7 ring road and tunnel under Shannon), quarries and numerous windfarm projects.

PROFESSIONAL ACCREDITATION

Full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM)

EDUCATION

Higher Diploma in Applied Aquatic Sciences

National Certificate in Aquaculture

UCC – BSc in Zoology / Ecology

TCD – MSc Environmental Sciences



RECENT RELEVANT EXPERIENCE

Aquatics

Roger is proficient in freshwater biological assessments, fisheries habitat assessments, river corridor surveys (RHS); and aquatic/fish habitat restoration projects in river and lake systems. He has conducted numerous aquatic assessments on behalf of county councils and Irish Water over the past 10 years. He conducted research at Trinity College to inform ecological criteria for the Water Framework Directive.

Construction Monitoring and EcOW

Roger has been the employer's environmental manager and/ or site EcOW for construction monitoring and mitigation (EcOW) including design of water quality and aquatic ecology mitigation strategies and licensing / permitting in relation to protected species, construction works, discharges, abstractions and in-stream works. Recent windfarm projects (2016 – 2019) include; Bunnyconnellan windfarm Co Mayo, Teevurcher windfarm Co Meath, Meenwaun windfarm Co Offaly and four windfarm projects in Scotland

Liaison & Court Hearings

Roger has made presentations of evidence and cross examination experience at 9 oral hearings (An Bord Pleanála) to date, most being controversial and subject to intense 3rd party scrutiny. Roger has extensive liaison experience with landowners including farmers throughout Ireland.

PUBLICATIONS

R. Macnaughton, E. Rogan, V. Hernández-García and C. Lordan (1998). *The importance of cephalopods in the diet of blue shark (Prionace glauca) south and west of Ireland*. ICES CM 1998: M:07.

CAREER HISTORY

Apr 2002 – Aug 2004
Coveney Wildlife
Consulting: Surveyor and
Ecologist

Aug 2004 – Jul 2005 MBEC:
Project Ecologist

Jul 2005 – Sept 2005
Environmental Research
Institute UCC: Marine
Mammal Researcher

Oct 2005 – Dec 2006 White
young Green: Project
Ecologist

Jan 2007 – Jul 2007
Freelance Ecological
Consultant

Jul 2007 – June 2008
Corvus Consulting: Senior
Ecologist

Jul 2008 – Jan 2016 Tobin
Consulting Engineers:
Senior Ecologist

Feb 2016 – Feb 2019
Natural Power Consultants:
Senior Environmental
Consultant – Ecology Lead
Ireland

Mar 2019 – Jul 2020 Ervia:
Ecology Specialist (Major
Projects)

Dr. Alex Copland PhD



EDUCATION

University College Cork (2003-2009) Ph.D. Thesis title: 'Bird populations of lowland Irish farmland (with special reference to agri-environment measures)'.
University of Edinburgh (1991-1995): BSc (Hons) Ecological Sciences

ADDITIONAL QUALIFICATIONS

Safe Pass (exp. 09/22)
Manual Handling Cert. (exp. 01/22)
BTO: 'A' class bird ringing licence with training endorsement.

CAREER HISTORY

Senior Ecologist.
Inis Environmental Consultants Ltd.
(July 2018 – October 2019)

Senior Conservation Officer
Birdwatch Ireland
(January 2007 – June 2018)

AREAS OF EXPERTISE

Project Management | Research | Data Analysis and Interpretation | Bird Survey Design | Avian Impact Assessments | Mitigation Design | Environmental Legislation | Bird Surveys

PROFILE

Dr. Alex Copland has over 20 years of experience as an Ecological Scientist and Advocate, specializing in research, management, policy and advocacy work relating to the conservation of biodiversity and the protection and enhancement of the environment. Particular expertise in relation to wider countryside issues, especially in wetlands (freshwater and coastal) and peatlands, agricultural and upland landscapes and associated policy areas.

Specialties: Research project design and management (including fieldwork); development, application and delivery of conservation measures; design and implementation of conservation measures and actions; formulation, advice and promotion of strategic conservation policies at national and international level; analysis, review and submission of scientific data.

RECENT OR PREVIOUS EXPERIENCE

Senior Ecologist: Inis Environmental Consultants Ltd.

As Senior Ecologist with INIS, Alex was responsible for providing ecological input into a range of projects throughout Ireland. In addition to general support for the operation of the organisation (such as completion of tenders, oversight of reporting outputs and other documents, etc.), he oversaw the day-to-day work of ecology team (comprising six in-house ecologists and a GIS specialist) as well as coordinating and supporting external (sub-contracting) ecologists.

In addition to this project management work, Alex has reviewed methods of fieldwork, including data collection, entry and analysis within existing projects to ensure highest possible standards required, and developed opportunities where these methods were enhanced to collect additional ecological data that will be of value in developing future scientifically-rigorous methods and outputs, including scientific publications.

He also has considerable experience identifying needs for, designing and undertaking fieldwork. This includes adoption of Best Practice guidance for surveying methods, as well as devising appropriate survey techniques adapted from scientific literature review. With Inis, this has included expensive work on coastal SPAs and shorebird sites, peatlands and upland landscapes as well as within the wider countryside.

SELECTED PUBLICATIONS

Book Chapter:

- Copland, A. & Lusby, J. (2012) Lowland Farmland. In: Nairn, R. & O'Halloran, J. (eds). Bird Habitats in Ireland. The Collins Press, Cork.

Selected Peer-reviewed Papers

- Ó hUallacháin, D., Copland, A.S., Buckley, K. & McMahon, B.J. (2015). Opportunities within the revised EU Common Agricultural Policy to address the decline of farmland birds: An Irish perspective. *Diversity* 7: 307-317.
- Kenny, K., Copland, A.S. & McMahon, B.J. 2015. Timing of mowing for the Conservation of Whinchat (*Saxicola rubetra*) in Ireland. In: Bastian, H-V. & Feulner, J. (eds). *Living on the Edge of Extinction in Europe: Proceedings of the 1st European Whinchat Symposium*: 227-232. Helmbrechts, Germany.

Dr. Alex Copland PhD



EDUCATION

University College Cork (2003-2009) Ph.D. Thesis title: 'Bird populations of lowland Irish farmland (with special reference to agri-environment measures)'.
University of Edinburgh (1991-1995): BSc (Hons) Ecological Sciences

ADDITIONAL QUALIFICATIONS

Safe Pass (exp. 09/22)
Manual Handling Cert. (exp. 01/22)
BTO: 'A' class bird ringing licence with training endorsement.

CAREER HISTORY

Senior Ecologist.

Inis Environmental Consultants Ltd.
(July 2018–October 2019)

Senior Conservation Officer

Birdwatch Ireland
(January 2007–June 2018)

SELECTED PUBLICATIONS (Continued)

- McMahon, B.J., Copland, A.S., Kirwan, L., Purvis, G. & Whelan, J. (2012) Survey evaluation for species richness of farmland birds. *Irish Birds* 9: 361-366.
- Copland, A.S., Crowe, O., Wilson, M.W. & O'Halloran, J. (2012) Habitat associations of Eurasian Skylarks *Alauda arvensis* breeding on Irish farmland and implication for agri-environment planning. *Bird Study* 59: 155-165.
- Copland, A.S., Farrell, C.A. & McCorry, M.J. (2011) Breeding bird populations on the Oweninny cutaway peatlands, Co. Mayo. *Irish Birds* 9: 197-208
- Copland, A.S. & O'Halloran, J. (2010) Agri-environment impacts and opportunities for summer bird communities on lowland Irish farmland. *Aspects of Applied Biology* 100, Agri-environment schemes - what have they achieved and where do we go from here?, pp. 77-87.
- Copland, A.S. & O'Halloran, J. (2010) Simple and rapid biodiversity assessments (SARBAS): An evaluation method of Ireland's agri-environment scheme. *Aspects of Applied Biology* 100, Agri-environment schemes - what have they achieved and where do we go from here?, pp. 385-390.
- Copland, A.S. (2002) Delivering Corncrake *Crex crex* conservation in Ireland: past, present and future. *Irish Birds* 7: 33-42

Note that the list above is not exhaustive but provides a sample of the peer-reviewed work he has had published. In addition, Alex also sits on the editorial panel of *Irish Birds*.

Nick Marchant

Nick Marchant is the principal ecologist of NM Ecology Ltd. He has thirteen years of professional experience, including ten years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO in Indonesia. He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct. He regularly carries out bat surveys for projects throughout Ireland and Northern Ireland, and has completed training courses in Bat Identification and Survey (Bat Conservation Ireland, 2008), Bat mitigation for construction projects (Bat Conservation Trust, 2014) and Bat handling, mist netting and harp trapping (Bat Training UK, 2014).

Ross Macklin PhD (candidate), B.Sc. (Hons) MCIEEM., MIFM, HDip GIS, PDip IPM

Ross is an aquatic and fisheries ecologist with over 15 years' professional experience in Ireland and is one of the most experienced aquatic ecologists in the country. He has a BSc in Applied Ecology and diplomas in integrated Pest Management and GIS. He is currently completing his PhD in fisheries ecology. He has considerable experience in a wide range of ecological and environmental projects including EIA, EIA, CEMP and AA/NIS reporting, as well as biodiversity, water quality monitoring, invasive species and fisheries management. He also has expert identification skills in macrophytes, freshwater invertebrates, protected aquatic habitats and protected aquatic species including freshwater pearl mussel. His diverse project experience includes work on renewable energy developments, flood relief schemes, road schemes, waste management, blueways/greenways, biodiversity projects, fisheries management projects and catchment wide water quality management.

Pascal Sweeney

Pascal conducted the Freshwater Pearl Mussel Surveys. Pascal Sweeney of Sweeney Consultancy is a freshwater biologist, specialising in aquatic invertebrates. Pascal Sweeney is issued yearly licences by NPWS for Stage 2 surveys of freshwater pearl mussels throughout the state. Clients for these surveys have included IFI, OPW, Coillte, Irish Rail, Cork CC, Carlow CC, Tipperary CC, Galway CC, as well as several engineering firms planning infrastructure projects.



Jon Kearney

Principal Environmental Scientist and Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Jon is a specialist planner and ecologist with over 15 years' experience in both the UK and Ireland. His skills include an extensive knowledge of planning environmental law and planning requirements for ecology and biodiversity. Jon's experience spans ecology survey techniques and methodology, ornithological surveys, mitigation design, water quality assessment, Appropriate Assessment and Ecological Impact Assessment. Jon has completed ecological assessments, EclAs, Environmental Impact Assessment Reports (EIAR) and Appropriate Assessments for a wide variety of projects in Ireland and the UK. He has considerable experience of EIS/EIAR and ecological constraints work, which often includes extensive reference to, and interpretation of, Article 6 of 'The Habitats Directive', and to other EU, UK and Irish conservation legislation.

Key Skills

Jon has experience in the following:

- planning environmental law and planning requirements for ecology and biodiversity.
- ecology survey techniques and methodology,
- ornithological surveys,
- mitigation design,
- water quality assessment,
- Appropriate Assessment
- Ecological Impact Assessment.

Previous Experience Essential For This Project

- **Guidance for Public Authorities on the Provision of Article 6(3) and Article 6 (4) of the Habitats Directive**
Public Authorities and AA practitioners require updated guidance on the Article 6(3) and 6(4) to ensure that assessments are robust and legally compliant. The existing national guidance document published in 2009 requires updating and needs to be reviewed to consider requirements due to the evolving case law and to ensure its alignment with European best practice. FT are preparing this updated national guidance document for Appropriate Assessment with NPWS currently. Jon is the Project Manager for this project.
- **Pairc Ui Chaoimh Redevelopment Cork City**
Lead ecologist for the redevelopment of Pairc Ui Chaoimh. Jon prepared the Flora and Fauna chapter of the EIS and the Natura Impact Statement. Jon was the expert witness for ecology representing the GAA at the subsequent An Bord Pleanala oral hearing following which the project received full planning.
- **Dunkettle Interchange, Client: Sisk Group (2018 – Present)**
Jon is responsible for managing planning conditions and ecology EIA and NIS commitments for the reconfiguration of the Dunkettle Interchange to a free flow interchange including:
 - A series of direct road links between the N8, the N25 and the N40 and links to the R623 regional Road in Little Island and Burys Bridge in Dunkettle;
 - 1 grade separated junction arrangement, 4 roundabouts, 51 major structures of various forms;
- **Development of Beamish and Crawford Site, Cork City**
Heineken Ireland Ltd. and BAM applied successfully for planning permission to build a multi-purpose development on the site of the old Beamish and Crawford Brewery on South Main Street, Cork City centre. Jon was the project ecologist for the project. He carried out habitat surveys and bat surveys within this urban site and the greater surroundings. He prepared the Ecological Impact Assessment and Appropriate Assessment. Jon was also involved in the

Key Information

Qualifications

M.Sc. Ecological Management and Biological Conservation,
Queens University Belfast, 2005

BSc. Applied Ecology
University College Cork 2004

Professional Memberships

MCIEEM Full member of the Institute of Ecology and Environmental Management

Employment History

July 2015- Present

Fehily Timoney & Company
Principal Environmental Scientist

2010 – 2015

Malachy Walsh and Partners

2009 – 2010

Renewable Energy Systems Ltd.

2007 – 2009

RPS Consulting Engineers

2007

Mott McDonald

2006 – 2007

Mouchel

2005 – 2006

Freelance Ecologist

Expert Witness

Expert Witness at the following oral hearings:
Pairc Uí Chaoimh
Doolin Pier

Publications

Jon Kearney (2010). Kerry slug (*Geomalacus maculosus*) recorded at Lettercraffroe, Co. Galway. Irish naturalists Journal **31** No. 1 p68 - 69



Jon Kearney

Principal Environmental Scientist and Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

consultation process with NPWS and designed a habitat enhancement plan including the installation of green roof as part of the design of the development

- **Upperchurch Wind Farm, Co. Tipperary**

Jon was the lead ecologist for Upperchurch Wind Farm in Tipperary. He both coordinated and conducted bat, mammal, habitat and ornithological surveys within the study area of the 22 turbine Wind Farm. He prepared the Ecological Impact Assessment, Appropriate Assessment and Ecological Management and Habitat Restoration Plan. Jon was also involved in the consultation process with NPWS.

- **'O' Grianna Case' Derragh Wind Farm, Co. Cork**

Jon was the lead ecologist for Derragh Wind Farm for the most recent application in 2015. The planning for the previous application had been over turned in the high court in the 'O' Grianna Case' due to lack of consideration for the Grid Route. Jon prepared the Natura Impact Statement and Flora and Fauna Chapter of the EIS for the most recent revised application which received planning from An Bord Pleanala.

- **Thornton's Millennium Park Recycling, Client: Thornton's Recycling (2017)**

Thornton's sought SID permission for a major waste management facility in Dublin. Jon directed preparation of ecology inputs to SID application. Led consultation with NPWS and biodiversity stakeholders. Directed and was responsible for quality assessments of EIS ecology chapters, Natura Impact Statements. Input to project design relating ecology and advised on permission conditions and pre-development compliance.

- **Moanvane Wind Farm, Co. Offaly**

Moanvane is a 12-turbine project in Co. Offaly. FT are acting as the planning consultant for the client and project supervisor for the design stage of the project. Jon was the lead ecologist for the project coordinating ecological survey for both the wind farm and grid route including ornithological, mammal, habitat, bat, aquatic and botanical survey. He coordinated the consultation process with NPWS and other relevant consultees for ecology. Jon prepared the Natura Impact Statement and Biodiversity chapter of the EIS.

- **Doolin Pier Development, Co. Clare**

A new harbour development comprising of a 103 metre pier new pier structure, revetment, bed rock dredging, access road and associated works at Doolin, Co Clare. The new facility offered improved access to the Aran Island from the mainland. Jon was the lead ecologist for the EIA. Coordinating and undertaking: Ecological survey (fauna, flora and habitats). Production of an NIS and terrestrial ecology chapter of the EIS. Expert witness at oral hearing for project which received planning

- **Glenbeigh to Cahersiveen Greenway, Client: Kerry County Council (2017)**

Kerry Co. Co. propose to construct a walkway/cycleway along a 17km stretch of dismantled railway line. Jon was the project ecologist for the development. He both coordinated and carried out a full suite of ecological studies including ornithological surveys, habitat surveys, bat surveys and Kerry slug surveys along the entire corridor of the route and the greater surroundings. He prepared the Ecological Impact Assessment route selection report and directed the Appropriate Assessment. Jon was also coordinated in the consultation process with NPWS and conservation stakeholders.

- **Baseline Surveys for bat at 34 Bord na Mona bog sites in the midland, Counties Kildare and Offaly**

Jon coordinated and conducted a full suite of bat surveys at 34 Bord na Mona bogs in the midlands. A full year of surveys were carried out in 2015 including activity surveys, roost surveys and surveys from height using both automated and manned bat detectors.

- **Knockranny Wind Farm 42MW**

Jon was the lead ecologist for Knockranny. He carried out Ornithological surveys, habitat surveys, bat surveys and Kerry slug surveys within the site and the greater surroundings. He prepared the Ecological Impact Assessment, Appropriate Assessment, Ecological Management and Habitat Restoration Plan and the Haul Route Selection Report. Jon was also involved in the consultation process with NPWS.

- **Athea Wind Park 40MW**

This project, consist of three adjacent wind farms, consists of 20 turbines. A large majority of the site is located within the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (Site Code: 004161). This site and has been designated as a Special protection area (SPA) under the E.U. birds directive of special conservation interest for the hen harrier. Jon was the lead ecologist for Athea. He carried out ornithological surveys, small mammal survey, habitat surveys, vegetative quadrat surveys and bat surveys within the site and the greater surroundings. He prepared several preplanning reports and the ecological monitoring report for 2013. Jon was also involved in the consultation process with NPWS and IFI.

- **Lettercraffroe Wind Farm 24MW**

This project, in two phases, consists of 31 high mast low wind speed 2.5mw turbine generators. Jon was the project ecologist for Lettercraffroe. He carried out ornithological surveys, habitat surveys, bat surveys and Kerry slug surveys within the site and the greater surroundings. He prepared the Ecological Impact Assessment, Appropriate Assessment, Ecological Management and Habitat Restoration Plan and the Haul Route Selection Report. Jon was also involved in the consultation process with NPWS

- **Lenamore Wind Farm, Co. Kerry 24MW**

Jon was the lead ecologist for Lenamore Wind Farm. Jon prepared the Ecological Impact Assessment ecological restoration and management plan for hen harrier and the Appropriate Assessment for the proposed Wind Farm. He carried out ecological field surveys of the entire site including habitat and mammal surveys.

- **Toberatoreen Wind Farm, Co. Kerry 17MW**

Lead Ecologist responsible for the Natura Impact Statement, ornithological surveying, terrestrial and aquatic ecological assessment, EclA and ecological restoration and management plan. Jon was also involved in the consultation process with NPWS and IFI.

- **Ecological Surveys Knockacummer Permanent 110kV Underground Grind Connection**



Jon Kearney

Principal Environmental Scientist and Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Lead Ecologist for the project. Reviewed the final report and managed junior ecologists for the ecological surveys

- **Lisheen Wind Farm Phase I Post-Construction Monitoring 54MW**

The 18 turbine Lisheen Wind Farm became fully operational in 2009. Planning permission was granted for the development with the condition that three years of post-construction monitoring be conducted within the wind farm site. Jon was the project manager for Lisheen Wind Farm Post-construction monitoring. He has carried out vantage point, transect and I-WeBS surveys for birds. Jon is also coordinating fatality searches for both bats species and birds within the site. He is also coordinating the liaison process.

- **Glentane phase II Wind Farm Ecological Clerk of Works water quality monitoring**

Jon carried out weekly audits at the wind farm site during the construction period in relation to sediment and erosion control measures. He also conducted both biological and physio-chemical water quality sampling at sampling stations within the greater catchment area of the wind farm and produce weekly reports for the developer

- **EIAR for Proposed Development at Knockharley Landfill (2018)**

Jon was responsible for the Biodiversity chapter of the EIAR for a SID development submitted to ABP in December 2018.

- **Baile Bhuirne Bypass M22 (Client: NRA)**

Jon conducted extensive ecological surveys as part of route options assessments for the M22 bypass around Baile Bhuirne including Kerry slug, habitat and mammal surveys for badgers, otters, red squirrel, etc.

- **M1/N1 (Drogheda to Newry) (Client: NRA)**

Jon conducted ecological surveys as part of motorway and conducted audit of mitigation measure implemented as part of the planning conditions for the motorway during the construction phase including the provision of mammal fencing and underpasses and as well as landscaping and enhancement planting.

- **Dungarvan Outer Bypass Route Selection Report (Client: NRA)**

The National Roads Authority plan to construct an Outer Bypass of Dungarvan, Co. Waterford. Carried out phase I habitat survey of the entire study area, consisting of a corridor of 200m wide along each Route Option. A protected species survey was also carried out for both flora and fauna along each route option.

- **M8/N8 (Horse and Jockey to Urlingford) (Client: NRA)**

Jon conducted ecological surveys as part of development and conducted audit of mitigation measure implemented as part of the planning conditions for the motorway during the construction phase including the provision of mammal fencing and underpasses and as well as landscaping and enhancement planting.

- **M20 Controlled Motorway - London to Dover Motorway (Client: NRA)**

Carried out protected species surveys for Highways Agency at 23 sites on the M20 Motorway including a full botanical survey of each site. The information was then incorporated into the environmental works information to ensure that environmental legislation was adhered to during works. Protected species identified included dormice, common lizard, slow worm, otter and badger. The role also involved the onsite supervision of works and auditing to ensure that the subcontractor was adhering to mitigations.

- **Cahir Solar Farm, Co. Tipperary**

Jon was the senior ecologist for Cahir Solar Farm. He coordinated the ornithological surveys, habitat surveys, mammal surveys within the site and the greater surroundings. He reviewed and managed the preparation of the Ecological Report, designed the ecological enhancement measures, Appropriate Assessment Screening Report and ecological enhancement measures. Jon was also involved in the consultation process with NPWS.

- **Carrick Solar Farm, Co. Tipperary**

Jon was the senior ecologist for Carrick Solar Farm. He coordinated the ornithological surveys, habitat surveys, mammal surveys within the site and the greater surroundings. He reviewed and managed the preparation of the Ecological Report, designed the ecological enhancement measures, Appropriate Assessment Screening Report and Natura Impact Statement. Jon was also involved in the consultation process with NPWS.

- **Ballyhale Solar Farm, Co. Kilkenny**

Jon was the senior ecologist for Ballyhale Solar Farm. He carried out Ornithological surveys, habitat surveys, mammal surveys within the site and the greater surroundings. He reviewed and finalised the Ecological Report, designed the ecological enhancement measures, Appropriate Assessment Screening Report and Natura Impact Statement. Jon also coordinated the consultation process with NPWS.

- **Carragraigue Solar Farm, Co. Cork**

Senior ecologist prepared Natura Impact Statement for the Carragraigue Solar Farm, consultation with statutory bodies, designed the ecological enhancement measures and conducted ecological surveys at the site including habitats, mammals, birds and bats.

- **Glenamoy House Solar Farm, Co. Meath**

Senior ecologist prepared the Natura Impact Statement and Ecological Appraisal for the project, coordinated consultation with statutory bodies, designed the ecological enhancement measures for protected species including yellowhammer and conducted ecological surveys at the site including habitats, mammals, birds and bats for the site located near Laytown, Co Meath.

- **Cork Area Strategic Pan Strategic Environmental Assessment (SEA)**

The Cork Area Strategic Plan (CASP), adopted in 2001, provides a framework for the full integration of land use, transportation, social and economic elements for the Cork area up to 2020. Prepared ecology chapter of the SEA.

- **Strategic Area Plans Cork County**

Prepared the biodiversity, flora and fauna chapter for the Strategic Environmental Assessment for the following towns:



Jon Kearney

Principal Environmental Scientist and Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

- Macroom
- Clonakilty
- Kinsale
- Skibbereen
- Fermoy
- Mallow
- **Southeast Clare Habitat Mapping**

Carried out phase I habitat survey for Clare County Council of all habitat types within a total study area of 400km². Habitats were classified to level 3 according to a guide to habitats in Ireland (Fossitt, 2000). The information gathered was used to produce a comprehensive habitat map of the region. Among the EU Annex I habitats recorded during the survey was 'depressions on peat substrates of the rhynchosporion (7150)'. This habitat was previously unrecorded within the region and maybe designated as a site of international importance following further investigation.
- **Ardcooney Integrated Tourism Masterplan, Co. Clare**

Fehily Timoney & Company prepared an Integrated Eco-Tourism Masterplan for Ardcooney in County Clare. The masterplan consisted of the development of land along the River Shannon for tourism including a Caravan Area, Mobile Homes, Glamping, Kayak Storage and camping pods. Jon conducted ecological surveys within the study area and prepared a subsequent Stage Two NIS assessing phase of project along with the overall Masterplan for the area which received planning.
- **Ballynora to Lehenaghmore Bord Gais Pipeline**

Bord Gáis proposed to construct a natural gas pipeline 5.5km in length extending from Ballynora to Lehenaghmore, Co. Cork. A Preliminary Environmental Assessment (PEA) was prepared in order to assess the environmental constraints associated with the proposed pipeline. A desktop review was carried out to identify features of ecological importance within the study area followed by a phase I habitat survey and mammal survey. Prepared flora and fauna chapter of the Environmental report.
- **Doon Post Primary School Badger Derogation Licence, Co. Limerick**

Provided ecological expertise during the construction phase of Doon Post Primary School. Project manager/ecologist coordinating badger mitigation measures. Jon conducted activity study for badgers (14 setts), bats and amphibians. Consultation with NPWS and IFI. Application for wildlife licence and coordinating mitigation measures stipulated in licence including the building of an artificial badger sett, exclusions, hard blocking and sett removal.
- **Poorman's Bridge, County Laois**

Project ecologist conducted ecological surveys for bats, mammals, as well as habitat and aquatic surveys for Annex I habitats, white-clawed crayfish, salmonids and lamprey. The bridge is located upstream of the only population in the world of the Nore Freshwater Pearl Mussel. Prepared Natura Impact Statement and reviewed detailed construction works method for submission to An Bord Pleanála.
- **Delphi Bridge Restoration Works, Co. Mayo**

The role involved the on-site supervision of construction works to ensure that the agreed method statement was being adhered to for this extremely sensitive site. The bridge was situated on the most important river in Ireland for Freshwater Pearl Mussel. The first year of works was cancelled due to a catastrophic flooding event resulting in damage through the movement of and spillage of sandbags downstream into freshwater pearl mussel habitat, and damage to the riparian vegetation, which was not mitigated against at the time. Project ecologist for the second year of proposed works (2012) following this event. There was ongoing consultation with directors and regional officers within NPWS and IFI. Jon conducted daily turbidity and water chemical analysis which was reported daily to NPWS, IFI and Mayo County Council.
- **GlaxoSmithKline Coastal Revetment**

Project ecologist for GSK coastal revetment. He conducted ornithological, habitat and protected species surveys at the proposed site. He is also coordinated the liaison process with NPWS, prepared an Appropriate Assessment and successfully completed a derogation license for an otter holt recorded within the footprint of the development.
- **M23 Passive Sign Installation, London**

Project involved the installation of signs along the M23, the main motorway linking London to the south coast of England. A full ecological survey was carried out for 5 sites looking at the presence of protected species and noxious weeds onsite. Prepared a Preliminary Environment Assessment citing possible risks and mitigations for these risks before works could commence. The role also involved the onsite supervision of works, auditing to ensure that the subcontractor was adhering to mitigations and conducting tool-box talks to all on-site personnel.
- **The Highways Agency Japanese Knotweed Management Plan, UK**

Carried out survey for the invasive species Japanese Knotweed for the counties of Kent, Surrey, East Sussex and West Sussex. The information gathered was incorporated into a Management Plan for all Highway Agency land within Southeast England.
- **Daventry Canal Development, UK**

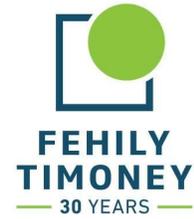
Daventry District Council was developing a new canal arm linking Daventry town centre with the Grand Union Canal about 3 miles to the north. Carried out ecological surveys for mammals (badger, otter and dormouse) and reptiles within the footprint of the development.
- **Aughinish Alumina Ltd. (AAL) BRDA Extension, Co. Limerick**

AAL operate a bauxite refinery plant situated on Aughinish Island, Co. Limerick. Residues from the extraction process are directed to the Bauxite Residue Disposal Area (BRDA). The proposed extension of the BRDA resulted in the loss of three old disused badger setts and one otter holt. The project involved the removal, under licence, of the three disused badger setts. Badger and otter field surveys determined the optimal location for artificial sett/holts. The project involved the constant liaison with statutory bodies to ensure that the client was



Jon Kearney

Principal Environmental Scientist and Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

meeting the requirements specified in the EIS. I designed and supervised the construction of three artificial otter holts and one artificial badger sett.

- **Water Quality Assessment Knockathea & Dromada Wind Farms**

Airtricity proposed to develop two wind farms near Athea village in the west of Co. Limerick. A benthic macro invertebrate survey was carried out within the rivers and invertebrates identified to the taxonomic level required to calculate Q-ratings. A Physico-chemical survey was also carried out at all waterways potentially at risk from the development. A Water Quality Assessment was prepared for the development of two wind farms at Knockathea & Dromada.

Other Ecological Projects completed by Jon

- Client: Dairygold Ltd. - Dairygold Redevelopment, Co. Cork (2014)
- Client: Louis Keating / Clare County Council - Kilrush Marina redevelopment and dredging, Co. Clare (2012)
- Client: GSK - Various projects including a coastal revetment, and several new buildings within the plant, Co. Cork (2010-2015)
- Client: Fenit Harbour Board - Fenit Marina and Harbour Extension Preliminary Ecological Studies & EIA Screening, Co. Kerry (2011)
- Client: The Department of Arts, Heritage and the Gaeltacht - Clifden and Inishbofin Airport Terminals (2011)
- Client: Kerry County Council - Ballyseedy Woods River Improvement Scheme, Co. Kerry (2011)
- Client: Coollegreen Wind Farm Ltd - Coollegreen Wind Farm, Co. Cork (2014)
- Client: Scartaglen Wind Farm Ltd - Scartaglen Wind Farm Phases I and II, Co. Kerry (2012 -2015)
- Client: Castlegregory golf club - Castlegregory golf course club house (2013)
- Client: Ecopower - Glencarbry Wind Farm, Co. Tipperary
- Client: Ecopower - Boolabrien Wind Farm, Co. Waterford
- Client: Ecopower - Knocknamona Wind Farm, Co. Waterford
- Client: Ecopower - Derrynadivva Wind Farm, Co. Mayo
- Client: Ecopower - Killavoy Wind Farm, Co. Cork
- Client: Met Eireann – Valentia Met Eireann Air Monitoring Facility
- Client: Longford County Council – Four bridge restoration projects, Co. Longford
- Client: Kerry County Council – N70 Kilderry Road, Co. Kerry
- Client: ACARD Ltd. – Cahersiveen to Reenard Point Walkway, Co. Kerry

Key skills and experience

- Have applied for, conducted surveys and supervised construction work under the terms of and completed final reports for several derogation licences for bats, badger, otter, pygmy shrew, electrofishing, reptiles, water vole, dormouse and Kerry slug.
- Expert Witness (Project Ecologist): at three An Bord Pleanála Oral Hearings, Cluddaun Wind Farm (Mayo), Pairc Ui Chaoimh (Cork) and Doolin Pier (Clare)
- Phase I habitat surveys, Fossitt (2000), vantage point survey (birds), transect surveys (birds), point count (birds), AnaBat (Bats), Q sampling (kick samples), White clawed crayfish surveys, electrofishing, mammal surveys (Longworth traps, field surveys, dormouse tubes, motion detection cameras).



Tom Clayton

Principal Geotechnical Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Tom is a Chartered Engineer with over 10 years of experience within the geotechnical sector having developed excellent skills in analytical design (including finite element analysis), project and team management. Tom has significant experience designing deep foundations (including deep shafts) in the London area as well as the Middle East and various projects within the Irish market.

Tom also specialises in earthwork stabilisation and has worked in asset management and design consultancy roles for both highways and rail projects. More recently, Tom has worked closely with contractors on Design & Build projects throughout the UK and Ireland, including several wind farms and other infrastructure schemes. Tom currently leads the geotechnical and engineering geology team at Fehily Timoney and is responsible for the day-to-day running of the team and business development.

Previous Wind Energy Experience

- Kilgallioch Wind Farm, Farrans, Jun 2017 - Present**
Tom took over the Project Manager role for this award winning 96 turbine wind farm project in Scotland towards the end of the construction stage and was responsible for closing out as-built drawings. Tom also undertook the role of Geotechnical Design Lead for a replacement turbine foundation at one location and undertook the formation inspection during the construction of this turbine
- Derrysallagh Wind Farm Substitute Consent – Kilonan Wind Farm Ltd, Jun 2017 - Present**
Tom was the Geotechnical / Geology Lead for the preparation of a Soils, Geology and Hydrogeology chapter for a retrospective EIS relating to the construction of an electrical cable route from Derrysallagh Wind Farm to a nearby electrical substation. As part of this assessment, Tom undertook a full desk study, site visit and provided an assessment of potential and cumulative impacts of the development (including with the wind farm development itself) and mitigation measures that could be implemented.
- Gortfinbar Phase 2 – Moriarty Civil Engineering Contractors, September 2016 – May 2017**
Tom acted as Category III checker for a piled turbine base foundation at this Northern Irish Wind Farm. Tom carried out an independent set of calculations and provided comments to the Designer. Tom also provided slope stability assessments for access road rock cuttings.
- Teevurcher Wind Farm - Roadbridge, October 2016 – May 2017**
Tom was the Lead Geotechnical Designer for this 5 turbine wind farm in Co. Meath and carried out full interpretation of the ground investigation and geotechnical design for all turbine foundations, hardstandings, access roads, substation foundations and met mast. Tom also provided construction stage support, formation inspections and verification of geotechnical testing for all of the above elements.
- Meenwaun Wind Farm - Roadbridge, June 2016 – April 2017**
Tom was the Lead Geotechnical Designer for this 4 turbine wind farm in Co. Offaly and carried out full interpretation of the ground investigation and geotechnical design for all turbine foundations, hardstandings, access roads, substation foundations and met mast.

Key Information

Qualifications

MEng. (Distinction) Civil Engineering,
University of Surrey, 2008

Chartered Engineer (CEng) 2015

Professional Memberships

Institution of Civil Engineers
(Member) 2015

Employment History

2016- Present

Fehily Timoney & Company
Principal Geotechnical Engineer

2008 – 2016

Aracadis UK (Formerly Hyder
Consulting)
Position

2004 – 2008

Hyder Consulting (Undergraduate)
Position



Tom Clayton

Principal Geotechnical Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Tom also provided construction stage support, formation inspections and verification of geotechnical testing for all of the above elements.

- **Proposed Wind Farm, Co. Kerry – Joam Consulting Ltd., October 2016 – December 2016**

Tom was the Project Manager for this peat stability assessment for a proposed wind farm in Co. Kerry. Tom oversaw the conducting of peat probing and field visits to the site and the preparation of a peat stability assessment in line with Scottish guidance on the preparation of Peat Stability Assessments. This project also involved the 3rd party check of a soil, geology and hydrogeology chapter prepared by others.

- **Raragh Wind Farm – Mainstream Renewables, July 2016 – December 2016**

Tom was the Geotechnical / Geology Lead for the preparation of a Soils, Geology and Hydrogeology chapter for an EIS relating to the construction of an electrical cable route from Raragh Wind Farm to Kingscourt, Co. Cavan. As part of this assessment, Tom undertook a full desk study, site visit and provided an assessment of potential and cumulative impacts of the development (including with the wind farm development itself) and mitigation measures that could be implemented.

- **Proposed Wind Farm, Co. Donegal – Element Power, October 2016 – December 2016**

Tom was the Geotechnical / Geology Lead for the preparation of a Peat Stability Assessment for an EIS relating to the construction of a Wind Farm in Co. Donegal which was a proposed as an 8 turbine site. Tom oversaw the conducting of peat probing and field visits to the site and the preparation of a peat stability assessment in line with Scottish guidance on the preparation of Peat Stability Assessments



Ian Higgins

Principal Geotechnical Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Ian is a geotechnical engineer with over 20 years' experience in the design and supervision of construction of bulk earthworks, geotechnical foundation design, geotechnical monitoring and reviewing, reinforced earth design and 3rd party checking of piling and ground improvement designs. Ian's experience also includes the design, supervision and interpretation of ground investigations, including desk studies, walkover surveys, hazard mapping of rock excavations and slopes.

Ian has experience in many areas of civil engineering including highways, railways, energy projects and commercial developments. Ian's responsibilities include managing junior engineers, reviewing work carried out for ground investigation, reporting and design. Ian has also experience in using a number of geotechnical software packages including slope stability, finite element, pile design and retaining wall design.

Key Skills

- Earthworks Design
- Geotechnical Foundation Design
- Ground Investigation Scoping and Procurement

Previous Experience Essentials for This Project

- **Almaty-Korgos Highway, Kazakhstan (ICC)**
Assessment the quantities of all temporary and permanent works executed by the Claimant relating to East-West Roads Project (Almaty-Korgos), part of the Western Europe-Western China International Transit Corridor.
- **A6 Dungiven to Drumahoe**
Part of Earthworks Design team for tender design submission. Assessment of ground investigation information for earthworks reusability and slope stability assessments.
- **Oweninny Wind Farm, Mayo**
Geotechnical design of access roads and turbine bases for Phase 1 of wind farm development (29 turbines)
- **Aberdeen Western Peripheral Route, Aberdeenshire, Scotland**
Part of Client's Representative Team, monitoring and checking of earthworks including material selection and testing. Liaison with contractors and preparing daily and weekly reports on work programme and health and safety issues.
- **M17/M18 Gort to Tuam PPP Project**
Geotechnical design category 3 checker for motorway project in the west of Ireland, covering earthworks and foundations for structures.
- **Kilgallioch Wind Farm, Scotland**
Geotechnical design of substation platform, access roads and turbine bases for 96 turbine wind farm.
- **Dersalloch Wind Farm, Scotland**
Geotechnical design of access roads and turbine bases for 23 turbine wind farm.

Key Information

Qualifications

BSc. Engineering Geology,
University of Sunderland, 1996

MSc. Geotechnical Engineering,
Heriot Watt University, Edinburgh,
1997

Professional Memberships

Member of the Institute of Engineers
of Ireland

Fellow of the Geological Society of
London (FGS)

Employment History

2019- Present

Fehily Timoney & Company, Carlow

2013 – 2019

Applied Ground Engineering
Consultants Ltd. (AGEC)

2012 – 2013

AGEC Australia

2001 – 2012

Applied Ground Engineering
Consultants Ltd. (AGEC)

1998 – 2001

Geotechnics Ireland Ltd.



Ian Higgins

Principal Geotechnical Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

- **Dublin Waste to Energy Incinerator Project**
Geotechnical assessment of ground conditions, procurement of ground investigation, design of piled foundations, design load transfer platform and reinforced earth structures.
- **Black Law Wind Farm Extension, Scotland**
Geotechnical design of access roads and turbine bases for 23 turbine extension to an existing wind farm including site inspections and sign off during construction.
- **Diyar Al Muharraq Project, Bahrain**
Assessment of the ground conditions and site investigation data for a deep sewer line particularly regarding the environmental impact on the aquifer.
- **M11 Gorey to Enniscorthy Tender Design Check**
Geotechnical design check for motorway tender design submission.
- **A31 Magherafelt Bypass**
Geotechnical designer for earthworks and foundations for tender design of a 5.8km bypass.
- **A26 Dualling Glarryford to Drones Road**
Geotechnical checker for tender design submission. On secondment to Soil Consultants Ltd. (UK)
- **Kingsland Road, London**
5 storey apartment block, site investigation and outline design for foundations and basements.
- **Dalston Lane, London**
Office and residential 4 storey apartment block, site investigation and outlined design for foundations and basements.
- **Westgate, Oxford**
Site investigation for shopping centre extension with 2 basement levels.

AGEC Australia Ltd. – Principal Geotechnical Engineer

- **Utah Point Stockyard 2, Port Hedland**
Project manager for the civil, structural and geotechnical design of the Stockyard 2 development at Utah Point. AGEC undertook the ground investigation design and supervision, earthworks design for the new iron ore stockyard construction with stockpiles up to 17m high and foundations design for the associated stackers, reclaimer and conveyors. AGEC also acted as site representatives during construction.
- **Esperance Port Access Corridor**
Geotechnical designer for the temporary works design for excavation support as part of the Esperance Port Access Corridor (EPAC) project, located in Esperance, Western Australia. AGEC undertook temporary works design for the access road upgrading and railway line realignment.
- **Adelaide Terrace Hotel, Perth**
Geotechnical engineer for a proposed new hotel in a Perth CBD restricted site. AGEC undertook the ground investigation design and supervision, soil parameters assessment and geotechnical design for the foundations for a 15 storey hotel with an underground car park 3 basement deep.
- **Mitchell Freeway Widening, Perth**
Geotechnical project manager for the temporary works design for retaining structures.



Ian Higgins

Principal Geotechnical Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Applied Ground Engineering Consultants Ltd. (AGEC) – Senior Engineering Geologist

- **Corrib Gas Onshore Pipeline, Co. Mayo, Ireland**
Geotechnical advisor on construction aspects of onshore pipeline. Duties include monitoring and reporting on ground conditions during construction including weekly reporting with analyses and interpretation of data from telemetric and in-situ instrumentation. Construction compliance verification with respect to specification for earthworks materials and earthworks assessment. Liaison with contractor on geotechnical design issues.
- **N17/N18 Gort to Tuam High Quality Dual Carriageway**
Part of Geotechnical Team for Tender Design for approximately 27km of high quality dual carriageway. Assessing ground investigation data for preliminary earthworks design and outline structural foundation design.
- **Flughland Wind Farm**
Review and check of contractors proposed pile design and site supervision of the installation of bored piles for a windfarm development in County Donegal.
- **Slievecallan Wind Farm**
Site inspection of proposed wind farm including an assessment of peat stability. Geotechnical assessment of site by walkover inspection and report on Peat Stability at turbine locations and associated infrastructure.
- **A4/A5 NI DBFO Scheme 3 Realignment, Northern Ireland**
Senior Geotechnical Designer, value engineering, compiling earthwork design reports which included; cutting and embankment design – stability analysis of slopes, assessing settlement, pavement foundation design, assessing acceptability of material for re-usability, design for special measures such as soft ground issues, slope drainage and pile design for a pile supported embankment. Other duties included attending and corresponding with other disciplines, liaising with site staff and giving advice on earthworks.
- **Cork Northern Relief Road**
Resident Engineer for the supervision of the Route Selection Site Investigation for Fehily Timoney Gifford.
- **Clonsilla to Dunboyne Railway Scheme**
Supervision of Site Investigation and Preparation of Interpretative Report for Railway Scheme. Includes the interpretation of ground conditions and design recommendations for all earthworks along the rail route, proposed bridge/culvert foundations, proposed and existing stations and proposed new roads.
- **Supervision of Site Investigations in Bailieborough, Cahir and Athlone**
For retail developments. Project manager, responsible for design and supervision of site investigations, interpretation of factual data and writing of interpretative reports for a series of retail developments on brownfield sites in Ireland.
- **Limerick Southern Relief Road**
Geotechnical checker for highway earthworks on scheme involving construction of stage constructed and monitored embankments over soft estuarine deposits.
- **N7 Nenagh to Limerick High Quality Dual Carriageway**
Part of Geotechnical Team for Tender Design for approximately 27km of high quality dual carriageway. Assessing ground investigation data for preliminary earthwork and outline structural foundation design.
- **M4/M6 Kinnegad-Enfield-Kilcock Motorway**
Geotechnical Designer's Site Representative for construction works. Responsible for ensuring the earthworks design was constructed in accordance with the design reports and the relevant specifications. Inspections carried out for all aspects of the earthworks, from removal of soft ground to sub formation and formation inspections for capping. Involved liaising with both the Design Manager for earthworks as well as the designer's site representative for structures, drainage and pavement design.
- **N4/M6 Kinnegad-Enfield-Kilcock Motorway**
Geotechnical Designer for earthworks and structure foundation.
- **N25 Waterford Bypass**
Resident Engineer for the supervision of the Supplementary Ground Investigation for MMEPO/Tramore House (NRA).



Ian Higgins

Principal Geotechnical Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

- **R292 Sligo to Strandhill**
Slope stability assessment of sidelong ground embankment to be constructed on glacial till with restricted land access and weak subgrade.
- **N4/N6 Kilcock to Kinnegad Motorway**
Assessment of potential borrow areas for road construction material. Requirement to identify about 1M cubic metres of suitable and selected fill. Included walk-over survey, ground investigation and reporting of findings to tendering consortium.
- **St. Fintan's High School, Sutton**
Supervision of the remediation of ground subsidence due to underground tunnel works. Site representative for the school on remediation work, which included trenching, compaction by vibratory probe, placement of geotextile, compaction and reinstatement of ground. Report produced on findings.
- **M1 Northern Motorway, Gormanstown to Monasterboice**
Logging of rock faces in cuttings and determination of rock quality from borehole logs, laboratory results and field observations.

Geotechnics Ireland Ltd. – Engineering Geologist

- **Dundrum Town Centre Development**
Site representative during enablement works for town centre development in Dundrum. Involved hazard mapping of rock faces of up to 14m in height, monitoring of on-site blasting by contractor, monitoring of groundwater table fluctuations as excavation progressed, recording ground conditions in both soil and rock during excavation, and monitoring rock and soil slope stability.
- **Supervision of Site Investigations in Cookstown, Larne and Ballymoney for retail developments**
Project manager, responsible for design and supervision of site investigations, interpretation of factual data and writing of interpretative reports for a series of retail developments on brownfield sites in Northern Ireland.
- **M1 Dundalk Western Bypass**
Checking and processing of factual data for geotechnical interpretative report. Carried out desk study and walkover survey of route of proposed bypass. Checking of digital data (AGS) supplied by contractor.
- **M1 Dunleer-Dundalk Bypass Contract No. 3**
Logging of rock faces in cuttings and determination of rock strength and excavatability from borehole logs, laboratory results and field observations.
- **Xerox Production Facility, Dundalk**
Supervision and direction of site investigation including logging of trial pits, shell & auger and rotary core boreholes and dynamic probing for a major industrial development on the edge of Dundalk.
- **N25 Kilmacthomas Realignment**
Detailed logging of trial trenches excavated in rock alone route of major cutting. Assessment of rock strength and excavatability from field observations.



Kristian Divjak

Civil Design Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Kristian is a Civil Design Engineer with Fehily Timoney and Company. He works as part of FT's Energy Team. After he graduated as the Best Student of his Generation, he continued his career in Hydroconsult Design Ltd. where he worked on various water management projects. He was responsible for hydraulic modelling. Kristian also worked on designing open channels, bridge culverts and river basin retentions.

Since joining FT, Kristian has worked on numerous Environmental Impact Assessment reports where his duty was to address impacts of development on hydrology and water quality and to implement mitigation measures. Kristian was responsible for drainage design and flood risk assessment.

Key Skills

- Civil Infrastructure
- Environmental Impact Assessment
- Flood Risk Assessment
- Open Channel and Pipeline Hydraulics
- Hydraulic Modelling

Previous Experience

Fehily Timoney and Company, Cork – 2019 - Present

- **Dromalivaun Solar Farm (2020)**
Responsible for drainage design of the solar farm.
- **Fairfield Road Residential Planning and Design (2020-present)**
Kristian was responsible storm, foul and watermain design of the residential development. The development consists of 49 houses and apartments.
- **Derryville Anaerobic Digester (2020)**
Kristian was responsible for preparation of the hydrology and water quality chapter of the environmental impact assessment report. He had undertaken the site investigation to identify hydrological constraints. He determined increase in runoff due to the development and impacts of the development on hydrology and water quality. He had to propose mitigation measure for construction, operation and decommissioning stage of the development. He was responsible for flood risk assessment and drainage design.
- **Dannistown Solar Farm (2020) & Oola Solar Farm Flood Risk Assessment (2020)**
Responsible for drainage design for the solar farm.
- **Navan & Oola Solar Farm Flood Risk Assessment (2020)**
Kristian was responsible to develop flood depth maps for Flood Zone A and Flood Zone B. It was required to estimate the flood depth to determine the height of the solar panels.
- **Oil Separator at MSB Brinny (2020-present)**
Kristian was responsible for drainage design at MSB Brinny Site. An existing oil separator was replaced by two NSBE125 Bypass Oil Separators.

Key Information

Qualifications

Master (Summa Cum Laude) in Civil Engineering,
University of Zagreb, 2015

Bachelor of Engineering (Hons) in Civil Engineering,
University of Zagreb, 2013

Bachelor of Engineering (Hons) in Civil Engineering,
Polytechnic of Zagreb, 2012

Professional Memberships

BEng ME MIEI

Employment History

2019- Present

Fehily Timoney & Company, Cork

2016 – 2018

Hydroconsult Design Ltd., Croatia

2015 – 2016

Hydroengineering Ltd., Croatia



Kristian Divjak

Civil Design Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

- **Cork County Bridge Rehabilitation (2019-2020)**

Kristian was responsible for high-level hydraulic analysis for nine bridges located throughout Cork County. It was determined that the Lisheenleigh Bridge needed to be replaced. Kristian was responsible for hydraulic modelling, technical report writing and filling out a Section 50 Application form.

- **Coom Green Energy Park (2019 – present)**

Kristian was responsible for preparation of the hydrology and water quality chapter of the environmental impact assessment report. He had undertaken the site investigation to identify hydrological constraints. He determined increase in runoff due to the development and impacts of the development on hydrology and water quality. He had to propose mitigation measure for construction, operation and decommissioning stage of the development. He was responsible for flood risk assessment and drainage design. Drainage design has been carried out in In-house Excel spreadsheet and Pipe Flow Advisor.

- **Dernacart Wind Farm (2019)**

Kristian was responsible for preparation of the hydrology and water quality chapter of the environmental impact assessment report. He had undertaken the site investigation to identify hydrological constraints. He determined increase in runoff due to the development and impacts of the development on hydrology and water quality. He had to propose mitigation measure for construction, operation and decommissioning stage of the development. He was responsible for flood risk assessment and drainage design. Drainage design has been carried out in In-house, Excel spreadsheet and Pipe Flow Advisor.

- **Croaghaun Wind Farm (2019-present)**

Kristian was responsible for preparation of the hydrology and water quality chapter of the environmental impact assessment report. He had undertaken the site investigation to identify hydrological constraints. He determined increase in runoff due to the development and impacts of the development on hydrology and water quality. He had to propose mitigation measure for construction, operation and decommissioning stage of the development. He was responsible for flood risk assessment and drainage design. Drainage design has been carried out in In-house Excel spreadsheet and Pipe Flow Advisor.

- **Boolard Wind Farm Detailed Design (2019)**

Responsible for drainage design for the Boolard Wind Farm.

- **Killcurly Solar Farm (2019-2020)**

Kristian was responsible for preparation of the hydrology and water quality chapter of the environmental impact assessment report. He had undertaken the site investigation to identify hydrological constraints. He determined increase in runoff due to the development and impacts of the development on hydrology and water quality. He had to propose mitigation measure for construction, operation and decommissioning stage of the development. He was responsible for flood risk assessment and drainage design. Drainage design has been carried out in In-house Excel spreadsheet and Pipe Flow Advisor.

- **Croom Residential Development (2019 – present)**

Kristian was responsible for drainage design for Croom residential development. Croom residential development consists of 11 apartments. Kristian designed storm, foul and water main network. Storm water and foul network were designed with Flow software developed by Causeway. Water main was designed with EPANET software.

- **Feasibility Report Listry Bridge (2019)**

Kristian was responsible to hydraulic and hydrology assessment of the Bridge Listry. It was required to determine the flow conveyance of the bridge and soffit level.

- **Section 5 Application Grid Connection Millvale, Co. Wicklow**

Responsible for Section 5 report.

- **Section 5 Application Grid Connection Furryhill, Co. Kildare**

Responsible for Section 5 report.

Hydroconsult Design Ltd., Croatia – 2016 – 2018 – Civil Engineer Consultant

- **Study Documentation for Preparing Flood Control Projects for the Zagrebačko Prislavlje Basin**

Kristian was responsible for technical report writing, hydraulic modelling, estimating costs of flooding for extreme storm events and preparation of flood risk and flood hazard mapping. On this project worked a Consortium of three companies. Due to catchment area and complexity of the project, it was divided into three parts.



Kristian Divjak

Civil Design Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

For assigned part, each company had to provide a description of the current state, hydrology and hydraulic model, estimate costs of fluvial flooding for various storm events, flood risk and flood hazard mapping and propose flood risk mitigation measures: Flood extents have been model for approximately 27km of open channel in HEC-RAS for various extreme flood events. Flood extents were imported into ArcGIS and overlaid with existing infrastructure to estimate costs of flooding. Based on the impact due to flooding, appropriate mitigation measures have been proposed.

- **Planning Permission for Flood Mitigation Measures for Town Pakrac (2018)**

Kristian was responsible for technical report writing, drainage design for approximately 3.2km of open channel, culvert design and hydraulic modelling of the River Pakra to determine water elevation for various extreme storm events.

Drainage design of open channels was carried out in Civil 3D. Culverts were designed in In-house software. Hydraulic river modelling was carried out in HEC-RAS.

- **Planning Permission for River Regulation of the Bednja River (2018)**

Kristian was responsible for technical report writing and hydraulic river modelling for approximately 9.7 km of the Bednja River to determine required elevation of embankments for extreme storm events.

The hydraulic model of the Bednja River was developed in HEC-RAS.

- **Planning Permission for an Earthen Retention at Catchment Bahunsko (2017)**

Kristian was responsible for technical report writing and design of an earthen retention at catchment Bahunsko. He was responsible to determine the flood extents due to construction of a dam and design of an outfall and emergency spillway.

Extreme storm events were modelled in HEC-HMS based on recorded historic rainfall data. The flood extents were determined in ArcGIS for various water elevations. An outfall and emergency spillway were designed in In-house Excel spreadsheet.

Mark Tideswell**TECHNICAL CONSULTANT**

Mark is a Technical Consultant with over six years experience working in the Environmental Consultancy sector. Mark's work focuses mainly on the technical aspects of renewable energy developments including site finding, GIS mapping services, shadow flicker and various types of noise assessments.

KEY EXPERIENCE

- Noise monitoring and assessment (ETSU-R-97, BS4142, BS5228)
- Noise propagation modelling
- Shadow Flicker assessment
- GIS site finding and feasibility for energy developments
- Constraints mapping
- Technical drawing and figure production

EDUCATION AND PROFESSIONAL STATUS

- BSc (Hons) Music Technology, Leeds Metropolitan University (2011)
- IOA Diploma in Acoustics and Noise Control, Leeds Metropolitan University (2015)
- Associate Member of the Institute of Acoustics (AMIOA)

EXPERIENCE RECORD**2013 – Present TNEI Services Ltd****Noise Assessment**

Mark has undertaken noise assessments and provided support for a range of different development types, including: Wind Farms, energy generation and storage, Industrial and Residential schemes.

Projects of note include:

- Wind turbine compliance noise assessment (project confidential) on South Uist for Comhairle Nan Eilean Siar.
- Spaldington Wind Farm: Noise level monitoring and reporting for wind farm construction activities, including piling.
- Lindhurst Wind Farm: Wind farm noise compliance monitoring and assessment.
- Rumer Hill Gas Peaking Plant: Baseline noise monitoring and BS4142 assessment for the operation of externally located gas powered engine/generator sets.
- Newcastle Great Park: Production of noise propagation models and noise mapping of a large housing development in Newcastle in order to assess the potential impacts of road and aircraft noise.

**Position in Firm:**
Technical Consultant**Experience:**
6 years**Key Qualifications:**
- BSc (Hons) Music
Technology
- Diploma in Acoustics
& Noise Control (IOA)**Professional
Memberships:**
- AMIOA

GIS and Mapping Services

Mark has provided GIS and CAD support for numerous projects at TNEI, including renewable energy, power systems, and residential and industrial developments. Duties typically include data management and analysis, site finding and feasibility assessments, site design, production of technical plans and figures, and general mapping services for the duration of a project.

Projects of note include:

- WPD Grid Study: Mapped the WPD electricity distribution grid network across the south-west of England.
- ZNSHINE SOLAR Site Search: Feasibility assessment to identify potential sites suitable for solar development in England through the use of geographic data.
- Bankend Rig Wind Farm Extension: Provided GIS and mapping support for the planning application of the consented Bankend Rig Wind Farm Extension, including the production of supporting figures, plans and technical drawings.
- Hydrogen fuel cell development in Orkney: Production of GIS models and figures.
- STOR site in Lancashire: Produced GIS models and figures for three gas turbine engines.
- Feasibility studies for large scale STOR sites for up to 50MWe of generators/engines.

Jim Singleton**PRINCIPAL TECHNICAL CONSULTANT**

Jim is a Principal Technical Consultant whose experience within acoustics consultancy covers a range of sectors including environmental noise, occupational noise and architectural acoustics, with particular expertise in the energy and industrial sectors.

Jim is the Team Manager of the Site Services team with a specific focus on delivering noise and shadow flicker services for windfarm developments as well as leading our non-windfarm noise assessment services.

KEY EXPERIENCE

- Noise Propagation Modelling
- Industrial Noise Assessments and compliance monitoring
- PPC Permitting
- Due Diligence
- Construction Noise Assessments
- Planning applications for commercial, industrial and residential
- Quarrying and blast monitoring (noise & vibration)
- Mixed-use Master Planning
- ETSU-R-97 Noise Assessments
- Shadow Flicker Assessments
- BREEAM Assessments
- Room acoustics modelling

EDUCATION AND PROFESSIONAL STATUS

Diploma in Acoustics & Noise Control, Institute of Acoustics (2008)

BSc. (Hons) Music Technology, First Class (2001)

Member of the Institute of Acoustics (MIOA)

Member of the Audio Engineering Society (AES)

EXPERIENCE RECORD

2014 - Current **TNEI Services Ltd**
Principal Technical Consultant & Team Manager

Energy Projects

Jim regularly works on energy projects covering a range of generation types from conventional energy through to renewables, storage and electrical infrastructure. Projects of note include:

- Roosecote 50MW battery storage facility
- Capacity Mechanism Schemes, numerous (1MW – 40+MW)
- NorthConnect (Norway / Scotland Interconnector)
- Galloper 336MW offshore wind farm onshore substation
- Aberdeen 92MW offshore wind farm onshore substation
- New Gorbals District Heating Scheme
- Wormit Solar Farm



Position in Firm:
Principal Technical
Consultant

Discipline:
Acoustics

Experience:
12 years (consultancy)
6 years (lecturing)

Key Qualifications:
Diploma in Acoustics
& Noise Control (IOA)

BSc (Hons) Music
Technology

**Professional
Memberships:**

MIOA
AES

Marine, Near-shore and Ports

Jim has worked both locally and internationally on marine, near shore and port projects and provided a wide range of consultancy services to this sector. Examples include;

- Umm Qasr, Iraq (ESIA studies and chapter for extension of container port and RORO services)
- Port of Cromarty Firth, Invergordon (PPC application for oil & gas decommissioning and offshore asset recovery)
- Lochmaddy/Tarbert (Harbour expansions to facilitate larger ferry on Isle of Harris and North Uist.
- Johan Castberg FPSO Module (operational noise predictions for floating production storage and offloading vessel)
- Aberdeen Offshore Windfarm landfall, Blackdog (Predictions & measurements for cable winching from offshore to landfall).

Industrial Projects

Jim has significant experience of industrial noise assessments including PPC permit applications/variations, BS4142 assessments for planning applications and noise control and management for compliance and/or complaints. Recent projects of note include;

- Confidential Site, Proposed Open Cast Coal Mine (EIA noise assessment)
- Drakelow Energy from Waste plant (EIA and PPC application)
- Great Coates Energy from Waste plant (EIA)
- Binn Farm SRF Processing Facility (PPC application and compliance)
- SGL Carbon Fibers (PPC Permit compliance monitoring)
- BSW Timber Newbridge (Planning applications)
- Port of Cromarty Firth, Invergordon (PPC applications and construction noise assessments)

Residential Developments

Jim has worked on a number of residential developments assessing site suitability, providing planning application noise impact assessments, monitoring for compliance with planning conditions and specification of building facades, barriers and other noise control measures.

Recent projects of note include;

- Gosforth Business Park – Road traffic and industrial noise studies
- Newcastle Great Park Cell A – Road traffic and aircraft noise assessments
- Newcastle Great Park Cell D – Road traffic noise assessments
- Newcastle Great Park Cell G – Compliance monitoring
- Royal Quays, North Shields – Planning application
- Cannon Street, Hull – Planning application

**2011 – 2014 Atmos Consulting Ltd, Edinburgh
Senior Consultant (Acoustics & Noise)**

Whilst at Atmos, Jim authored the ES noise chapters of several Section 36 and large scale wind farms as well as numerous medium scale and FIT scheme developments. Other renewable energy projects included a number of biomass plants, wood fuel pellet production facilities and run-of-river hydro schemes.

Jim's experience of noise assessments outside of renewable energy covered a wide range of sectors. Some interesting projects of note include:

- Hovercraft crossing feasibility studies (Kirkcaldy to Edinburgh)
- Go-Kart Track, Aviemore – Impact assessment for planning application within a National Park;
- St Andrews International Golf Club – Impact assessment for planning application;
- Mixed use development, Muir of Ord – Master planning for outline planning;
- Housing development, Llandrindod wells – Site suitability assessment;

2007 – 2011 BMT Cordah Ltd, Glasgow & New Acoustics, Glasgow

Prior to concentrating on the energy and industrial sectors Jim worked on a significant amount of architectural acoustics projects as well as environmental noise. Architectural acoustics work has included room design, sound insulation testing, mechanical ventilation calculations, facade specifications and internal partition specification.

Interesting projects of note include;

- Acoustic design for the conversion of a Victorian warehouse space into the Kvadrat Showroom (London), as featured in Wallpaper magazine, working with Peter Saville and David Adjaye.
- Specification of internal partitions and acoustic design of specialist spaces for University of West Scotland, Ayr Campus (including recording & TV studios, radio studios, lecture theatres, performance spaces and atria).
- Acoustic design for the restoration of Triskel Christchurch, Cork, into a live music venue. Now renowned in Ireland for its acoustics.
- Mechanical ventilation calculations and design input for the Briggait, Glasgow. Conversion of former fish market into artist studios and exhibition spaces. The Briggait
- ETSU-R-97 noise assessment for the Viking Wind Farm, Shetland;
- PPC planning application and ES noise chapter for Northern Ireland's first large scale 'wood to energy' CHP.

Tony Cummins BA MA

Senior Archaeologist & EIA Consultant

Professional Qualifications

B.A. Degree (Archaeology) UCC, 1992
M.A. Degree (Archaeology), UCC, 1994
Licence-eligible Archaeologist since 1998

Career Profile

<i>2009 to present:</i>	Senior Archaeologist , John Cronin & Associates
<i>2009</i>	Consultant researcher , INSTAR Research Project, Archaeology Dept., UCC
<i>2003-2009</i>	Project Manager , Sheila Lane & Associates
<i>2003</i>	Project Manager , Eachtra Archaeological Projects
<i>1999-2002</i>	Senior Archaeologist , Aegis Archaeology
<i>1998-1999</i>	Project Manager , Archaeological Services Unit, Archaeology Dept. UCC
<i>1991-1998</i>	Member of various archaeological excavation teams

Relevant Experience

Tony has been a Senior Archaeologist with John Cronin & Associates since 2009 and has over twenty-five years continuous experience as a professional archaeologist. He has been a licence-eligible archaeologist since 1998 and has directed numerous excavations in Ireland as well as participating in archaeological projects in Britain and Lebanon. Tony also has gained a number of years' experience as the archaeological project manager overseeing archaeological works on a number of large-scale infrastructure projects, including the Limerick Southern Ring Road, Waterford City Bypass, Killaloe Bypass and Clashavoon-Dunmanway 110kV transmission circuit. This allowed him to gain extensive experience in the preparation of impact assessments, directing excavations, co-ordinating research studies and compiling reports for submission to state agencies and planning authorities.

Tony has extensive experience in preparing environmental impact assessments for numerous wind farm projects which included co-ordinating with other relevant consultants, including project design teams and LVA specialists. Examples of some of these projects include: Derrybrien rEIAR (Co. Galway), Glentane and Knockeenboy (Co. Cork), Shragh (Co. Clare), Bunmahon (Co. Waterford), Carrigdown (Co. Tipperary) and Tullynamoyle (Co. Leitrim).

John Cronin BA MRUP MUBC Dip. Geol MIAI

Principal Consultant & Architectural Heritage Specialist

Professional Qualifications

Master of Urban & Building Conservation, School of Architecture, University College Dublin, 1999

Diploma in Geology, University College Cork, 1996

Master of Regional & Urban Planning, University College Dublin, 1993

Bachelor of Arts (Honours) - Archaeology & Geography, University College Cork, 1991

Member of Institute of Archaeologists of Ireland

Career Profile

<i>2000 to date</i>	Managing Director and Principal Consultant , John Cronin & Associates
<i>1999 – 2000</i>	Executive Planner (Conservation) , Donegal County Council
<i>1998 – 1999</i>	Conservation Officer , Cork County Council
<i>1995 – 1998</i>	Archaeology and Historic Building Officer , Cork County Council
<i>1994 – 1995</i>	Principal Research Officer , Urban Archaeological Survey, UCC, Cork
<i>1993 – 1994</i>	Surveyor , Landesamt für Archäologie, Dresden, Germany

Relevant Experience

Mr Cronin is an archaeologist, town planner and building conservation consultant with over twenty years post-graduate experience in the public and private sectors. Mr Cronin has prepared numerous cultural heritage assessments for environmental impact assessments and has also supervised architectural surveys throughout the country. He has also acted as a built heritage consultant to Transport Infrastructure Ireland, The Heritage Council, the National Inventory of Architectural Heritage and various planning authorities.

Mr. Cronin has carried out archaeological and architectural heritage assessments for numerous large-scale infrastructure projects and the following are a short selection of same:

- **A1/N1 Newry-Dundalk Road Scheme** Dual carriageway link road across the border between Cloghoge roundabout, south of Newry, and Ballymascanlan interchange, north of Dundalk. Working in association with RPS Group, John Cronin was responsible for (i) Cultural Heritage Impact Assessment of the proposed scheme, (ii) expert Evidence at An Bord Pleanála hearing and (iii) specification of archaeological mitigation measures.
- **Galway City Outer Bypass (GCOB)** John Cronin project managed the archaeological, architectural and cultural heritage assessment input and specialist advise for the constraints, route option stage and EIS stage of the GCOB project. John also provided expert witness evidence at the oral hearing held by An Bord Pleanála.
- **Wind Farm Projects:** John has project-managed the assessment of numerous wind farm projects throughout the country and examples include Barnastooka and Kilgarvan (Co. Kerry), Sliabh Bawn (Co. Roscommon) and Streamhill (Co. Cork).

Richard Barker

MLA. BA Env. PG Dip For.
MILI.



Position: Principal Landscape Architect

Qualifications: Irish Landscape Institute Professional Practice Qualification – 2005
MLA – Lincoln University - 2003
PG Diploma Forestry – Canterbury University - 1996
BA Environmental Science – Massey University - 1995

Professional Affiliations: Corporate Member of the Irish Landscape Institute

Professional Experience

Richard formerly worked as a Town Planner in New Zealand, London and Dublin before moving into the field of Landscape Architecture. He has spent the last 16 years working as a Landscape Architect in Ireland and has considerable experience in the fields of both Landscape and Visual Impact Assessment (LVIA) and landscape design, covering all stages from project feasibility through to construction. This cross-over of expertise is invaluable in determining and designing the most appropriate and effective form of landscape and visual mitigation for infrastructural development projects.

Richard manages the LVIA department in Macro Works undertaking assessment work on a broad spectrum of projects from wind and solar energy, to roads and large-scale industrial and infrastructural development. Richard has personally completed the landscape and visual assessment of over 90 wind farms and 80 solar farms including nine SID projects. Consequently, he has considerable oral hearing expert witness experience. This extends to more than 15 oral hearings over the past 12 years with four of these being for large SID wind farm projects.

Richard has presented a number of conference papers relating to sustainable landscape design and LVIA as well as delivering the inaugural workshop on the landscape and visual effects of wind energy developments on behalf of the Irish Wind Energy Association. He has presented a paper to members of the Irish Landscape Institute on the application of the Guidelines for Landscape and Visual Impact Assessment (2013) using a wind energy case study. Richard has also delivered guest lectures to the University College Dublin professional course in EIA Management in relation to LVIA.

Key Projects

Coom Wind Farm	Brookfield / Coillte	135MW SID wind energy development
Barnesmore Repower Wind Farm	SPR	85MW SID wind energy development
Derryadd Wind Farm	Coillte	120MW SID wind energy development
Cluddaun Wind Farm	Coillte	120MW SID wind energy development
Emlagh Wind Farm	Element Power	120MW SID wind energy development
Maighne Wind Farm	Element Power	120MW SID wind energy development
Yellow River Wind Farm	Greenwind	95MW SID wind energy development
Mount Lucas Wind Farm	Bord na Mona	80MW wind energy development
Carrowleagh / Kilbride Wind Farm	John Duffy Assoc.	48.5MW wind energy development
Bruckana Wind Farm	Bord na Mona	45MW wind energy development
Lisheen III Wind Farm	Bord Gais	20MW third phase wind energy development

Feasibility and design optimisation studies for 10+ Offshore wind energy sites

LVIA for 90+ other Wind Energy developments

LVIA for 80+ Solar Energy Proposals



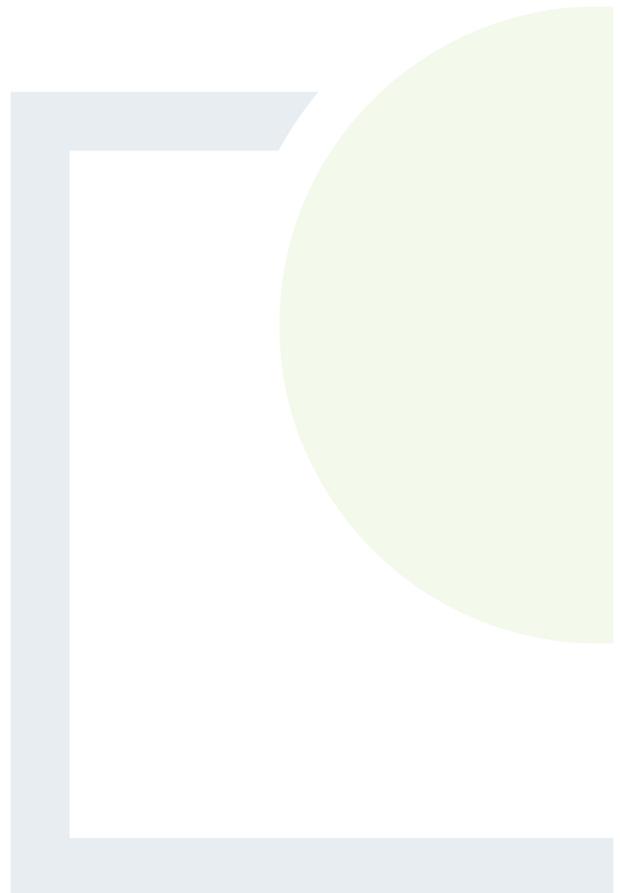
Cian Doughan BSc - Landscape Architecture	Position:	Graduate Landscape Architect
	Professional Experience	
	<p>Cian is an honours graduate of Landscape Architecture from UCD.</p> <p>Cian has exceptional graphic ability and his main field of interest in landscape Architecture is that of landscape planning and in particular, Landscape and Visual Impact Assessment. Cian has worked on important water supply projects as well as a range of wind farm and solar farm applications.</p> <p>Recent work that he has been involved with includes the Draft Landscape Guidelines for Irish Water.</p>	



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

APPENDIX 2

Projects Considered in the
Cumulative Assessment



Development Name/Type	Coordinates (ITM)	Year	Planning Reference Number	Decision	Status	Description	Address	Distance from CGEP
Bottlehill Landfill	X 563730 Y 590266	2004	EL2016	Grant	Constructed, Not in use	Landfill facility at Bottlehill, Co. Cork, located in the Townlands of Tureen South, Coom (Hudson), Coom (Fitzgerald) and Glashaboy North.	Bottlehill County Cork	0 km
Castlepook Wind Farm	X 561881 Y 615914	2011	114947 PL04.240434	Grant	Constructed	The development consists of a Wind Energy Project comprising 14 wind turbines, access tracks, a fenced Electrical Transformer Station comprising a single-storey Control Building and Substation, an effluent treatment system, two anemometer masts, borrow pits and all associated site works, above and below ground. Each wind turbine has an overall tip height of 135 metres.	Castlepook County Cork	c.21.8km
Knocknatallig Wind Farm	X 560241 Y 616962	2013	135885	Grant	Constructed	Wind farm consisting of 6no. wind turbines of 135m tip height, ancillary equipment for the generation of electricity, upgrading of access tracks and construction of new access tracks, a fenced electrical compound comprising a single storey control building and substation, transformers, towers, and all associated site works.	Streamhill East and Streamhill West Doneraile County Cork	c.24km
Boggeragh Wind Farm	X 537671 Y 587773	2011	108067 PL04.239775	Grant	Constructed	38 no. turbine wind farm with a tip height of 136.5m. Development includes substation, met. mast and all ancillary works.	Ballynagree East Carrigagulla County Cork	c.23km
Esk Wind Farm	X 538865 Y 586955	2014	1105276 PL04.240281 145608 PL 04.245196	Grant	Unbuilt	12 no. turbine wind farm with a tip height of 136.5m. Development includes new access roads and access junctions.	Derrygowna Knockavaddra Monanveel County Cork	c. 21km
Single Wind Turbine	X 570509 Y 592853	2011	116168 PL 04.241037	Grant	Unbuilt	Construction of one wind turbine generator (with a maximum hub height of up to 76 metres, a maximum rotor diameter of up to 56 metres, and a maximum blade tip height of up to 100 metres) associated crane hardstanding area, electrical substation, access tracks and ancillary facilities including underground cabling.	Moneygorm, Glenville County Cork	c. 1.4km
M20 Motorway	X 556481 Y 588599	2027	N/A	N/A	Feasibility	Cork to Limerick motorway project. Expected completion 2027. The likely route will be west of the N20. Currently at feasibility.	N/A	c. 5.5km
M28 Motorway	X 571335 Y 569681	2021	HA0053 MA0014	Approved for planning	At Planning	Motorway project from Cork Southern Ring Road to Ringaskiddy. Construction scheduled for 2021 to 2024.	N/A	c. 21km
Dunkettle Interchange	X 573313 Y 572547	2013	HA0039	Grant	Detailed Design	Dunkettle Interchange Improvement Motorway Scheme. Construction is expected to start 2020.	Dunkettle County Cork	c. 19km
Existing Forestry Activity					Ongoing	Forestry activity in the proximity to the CGEP site.		0km
Replant Lands at Moneygorm					Proposed	Proposed replant lands at Moneygorm.	Moneygorm County Cork	1km
Replant Lands at Ballard					Proposed	Proposed replant lands at Ballard.	Ballard County Wicklow	170km