

## Appendix 1C: EIAR Specialists

## EIA TEAM COMPETENCIES

Role	Name	Company	Experience	Professional Qualification
Traffic and Transportation	Alan Moriarty	JBB	11 years	Bachelor of Engineering, Civil (Ord) Degree, IT Tralee (2007);  Bachelor of Engineering, Civil (Hons) Degree, DIT (2010);  Master of Science, Civil Engineering, Trinity College Dublin (2012);  Professional Certificate in Road Safety Audit, UCD (2019); and  Higher Diploma in Economics, UCD (2021)
	Kwok Chuen Lam	JBB	16 years	Bachelor of Engineering, Civil and Structural Engineering, Hong Kong University of Science and Technology (2004)
Air Quality; Climate;  Odour;  Noise and Vibration	Mervyn Keegan	AONA	20 years	M.Sc. Environmental Science, Queens University Belfast (1998)  B.Sc. (Hons) Applied Biology, Coventry University (1996)  Diploma in Pollution Assessment & Control, Institute of Technology, Sligo (1995)  Diploma in Acoustics & Noise Control, Institute of Acoustics (University of Ulster, 2001)
	Olivia Maguire	AONA	15 years	B.Sc. Occupational Safety and Health, Institute of Technology, Sligo (2018)  M.Sc. Environmental Science, Queens University Belfast (1998)  B.Sc. (Hons) Geography, Queens University Belfast (1997)  ISO 14001: Lead Environmental Auditor, IEMA (2015)
Biodiversity	Pat Roberts	MKO	14 years	B.Sc. (Environmental Science) (2005) National University of Ireland, Galway.  BTEC N. Dip (Countryside Management) (1995).

Role	Name	Company	Experience	Professional Qualification
	Rachel Walsh	MKO	2 years	BSc Environmental Science (2020), National University of Ireland, Galway
Archaeology, Architectural and Cultural Heritage	Donald Murphy	ACSU	25 years	B.A. 1988 University College Dublin. M.A. (Celtic Archaeology) 1991, University College Dublin.
Landscape and Visual	Christos Papachristou	JBA	9 years	MA Landscape Architecture University of Sheffield, UK MSc Agricultural Biotechnology/ Agricultural Engineering
Land and Soil	Deirdre O'Hara	JBB	25 years	BSc Hons Degree in Science, University College, Galway (1996) MSc in Environmental and Geo-Resource Engineering, University of Wales, Cardiff (1998) H Dip in Project Management, Trinity College Dublin (2008)
	Martin Cannon	JBB	11 years	MSc in Soil Mechanics – Imperial College London (2016) BEng in Civil Engineering – University College Dublin (2010)
Water	Paul Judge	JBB	20 years	BSc Bachelors Degree (Hons) in Biotechnology, Dublin City University (2001) MSc Masters Degree in Environmental Engineering, Queens University of Belfast (2002) Diploma in Advanced Project Management from Dublin Business School
	Orla O'Brien	JBB	3 years	Advanced Diploma in Project Management, Dublin Business School (2022) M.E. (Hons 1:1) in Civil Engineering (Water/Wastewater), NUI Galway (2019-2020) B.E. (Hons 2:1) in Civil Engineering, NUI Galway (2015-2019)
	Paul Henessy	JBB	8 years	MSc in Financial Economics, University College Cork (2015)

Role	Name	Company	Experience	Professional Qualification
Resource and Waste Management				BE (Hons) in Civil Engineering, University of Limerick (2013)
	Orla O'Brien	JBB	3 years	Advanced Diploma in Project Management, Dublin Business School (2022) M.E. (Hons 1:1) in Civil Engineering (Water/Wastewater), NUI Galway (2019-2020) B.E. (Hons 2:1) in Civil Engineering, NUI Galway (2015-2019)
Population & Human Health	Conor Frehill	HWP	14 years	BA (HONS) Liberal Arts, University of Limerick MA Regional and Urban Planning, University College Dublin Chartered Member of the Royal Town Planning Institute
	Deirdre Tobin	HWP		
Material Assets	Paul Henessy	JBB	8 years	MSc in Financial Economics, University College Cork (2015) BE (Hons) in Civil Engineering, University of Limerick (2013)
Major Accidents and Natural Disasters	Darshana Shinde	JBB	2 years	Bachelor of Engineering (Civil) (Hons 1:1), 2017 MEngSc Water Waste and Environmental Engineering (2022)

**Profession:**

Traffic Engineer

**Specialisation:**

Traffic and Transportation Engineering

**Position in Company:**

Senior Engineer

**Years of Experience:**

10 Years

**Education:**

- ✓ Bachelor of Engineering, Civil (Ord) Degree, ITT (2007);
- ✓ Bachelor of Engineering, Civil (Hons) Degree, DIT (2010);
- ✓ Master of Science, Civil Engineering, Trinity College Dublin (2012);
- ✓ Professional Certificate in Road Safety Audit, UCD (2019); and
- ✓ Higher Diploma in Economics, UCD (2021).

**Professional Status:**

- ✓ CEng – Chartered Engineer (2019);
- ✓ MIEI – Member, Institution of Engineers of Ireland (2021);
- ✓ MTPS – Member, Transport Planning Society (2021).

**Health & Safety Training:**

- ✓ ACEI Designing for Safety in Construction;
- ✓ ACEI Project Supervisor Design Process (PSDP);
- ✓ SOLAS Safepass;
- ✓ CHM Working Next to Live Traffic;
- ✓ Chris Mee Group Fire Warden.

**Professional Experience:**

Alan is a Senior Engineer with Barry Transportation with ten years' experience in the engineering field and has been involved in numerous traffic and transportation schemes. Alan has considerable experience in the preparation of Traffic and Transport Assessments, Scheme Appraisals, Temporary Traffic Management Plans and Road Safety Audits. Alan is a TII approved Road Safety Audit Team Leader, and has been a team member in numerous road safety audits as well as a team member in cycling audits of the trial towns of the Smarter Travel cycle scheme.

**Professional Experience: (Scheme Appraisal)**

Alan is a Chartered Engineer with Barry Transportation with ten years' experience in the engineering field. He has experience in the design of numerous cycle schemes including the Braemor Road Enhancement Scheme and the Mayne Road Junction Upgrade project as well as considerable experience in the appraisal of small, medium and large-scale engineering projects in accordance with the Department of Public Expenditure and Reform's Public Spending Code, Department of Transport, Tourism and Sport's Common Appraisal Framework and TII's Project Appraisal Guidelines. Alan has led the appraisal team for TII's Tranche 4 Motorway Service Areas on the M3, M6 and M18, the N85 Kilnamona Road Improvement Scheme and the N63 Annagh Hill to Abbeyknockmoy Road Improvement Scheme which included the provision of an offline cycle-track. He had responsibility for the preparation of the economic and financial appraisal models, as well as the preparation of the Project Brief, Project Appraisal Balance Sheet, Detailed Business Case and the Cost Benefit Analysis Report. Alan is currently leading the project appraisal for the N17/R320 Lisduff junction upgrade project.

**Key Competencies:**

- ✓ Traffic Analysis & Assessment;

- ✓ Design of Pedestrian and Cycle Facilities
- ✓ Knowledge of COBA, VISSIM, ARCADY, PICADY, OSCADY and TRANSYT;
- ✓ TII Approved Road Safety Audit Team Member;
- ✓ Road User & Accessibility Audits;
- ✓ Temporary Traffic Management Design;
- ✓ Project Appraisal Guidelines;
- ✓ Economic Assessment of Projects.

**Employment History:**

- ✓ 2012 – Present – Barry Transportation – Transportation Engineer;
- ✓ 2011 – TMS Environment Limited - Graduate Environmental Engineer;
- ✓ 2007 – 2008 – Ardferd Quarry Products – Quality Manager.

**Selected Projects – Road Safety:****Road Safety Audits**

Dates: 2013 - Present

Client: Various (private and public sectors)

Position: Team Member

**Responsibilities:** Acting as Team Member, on more than 50 projects, responsible for delivery of Audits to TII GE-STY-01024.

**Project Description:** Audit team member for Stage 1, 2, 3 and 4 Road Safety Audits on a wide variety of schemes including National Road Schemes, Urban Renewal Projects, Junction Improvements, and Pedestrian and Cycle Infrastructure Schemes.

- Limerick Urban Centre Revitalisation O'Connell Street (Stage 1);
- N65 Portumna Pedestrian Crossings (Stage 1/2)
- Ballinasloe Street Enhancement Works (Stage 2);
- Willsbrook Road Cycle Scheme – (Stage 2 & 3);
- St Stephen's Green/Hume Street Junction (Stage 3);
- N56 Boyoughter to Kilkenny Online Upgrade (Stage 3);
- Dublin City Centre 30kph Entry Treatments (Stage 4); and
- Numerous minor developments (Stage 1 – 4).

**Road Safety Impact Assessments**

Dates: 2018 - Present

Client: Transport Infrastructure Ireland

Position: Team Member

**Responsibilities:** Member of a two-man team carrying out Road Safety Impact Assessments on a number of existing PPP Motorway Schemes

**Project Description:** Road Safety Impact Assessment Team member on the Following Motorway PPP Schemes: M7 PPP (Approx. 27km); and M8 PPP (Approx. 18km).

**Road User Audits**

Dates: 2013 - Present

Client: Various (public sector)

Position: Team Member

**Responsibilities:** Member of a two-man team carrying out Road User Audits on existing vulnerable road user provisions within urban environments ranging from minor local schemes to large scale improvement schemes.

**Project Description:** Audit Team member on a wide variety of schemes including:

- Limerick Smarter Travel Cycle Scheme;
- Dungarvan Smarter Travel Cycle Scheme; and
- New Vale Shankill Road Safety Improvements.

**Road Safety Impact Assessments**

## CV

Dates: 2013 - Present  
 Client: Various (public sector)  
 Position: Road Safety Auditor  
**Responsibilities:** Acting as Road Safety Auditor on Road Safety Impact Assessments, which formed part of the Site Selection process for various schemes, with responsibility for delivery of Road Safety Impact Assessments to TII PE-PMG-02001-04.  
**Project Description:** Audit Team member on a wide variety of schemes including:

- Regional Biosolids Storage Facility; and
- Tranche 4 Motorway Services Areas (M3, M6, and M18 Motorways).

## Quality Audits

Dates: 2013 - Present  
 Client: Various (private sector)  
 Position: User Reviewer  
**Responsibilities:** Acting as a User Reviewer as part of the Quality Audit process identified in the Design Manual for Urban Roads and Streets (DMURS) and UK Department for Transport Traffic Advisory Leaflet 5/11, with responsibility for assessing proposed designs from pedestrians and cyclist's viewpoint.  
**Project Description:** The South County Gateway development includes the construction of 3 No. office blocks in South County Business Park, Sandyford, Dublin.

## Selected Projects – Scheme Appraisal:

## Scheme Appraisal

Dates: 2013 - Present  
 Client: Various (public sector)  
 Position: Appraiser  
**Responsibilities:** Development of traffic models, financial models and economic models using various methodologies in accordance with TII Project Appraisal Guidelines. Responsible for coordinating the appraisal team and preparation of the Project Brief, Detailed Business Case Report, Cost Benefit Analysis Report and Project Appraisal Balance Sheet (PABS).  
**Project Description:** Acting as appraisal coordinator for the Donegal Corridor Needs Study for the TEN-T Network and as scheme appraiser on various projects including:

- Tranche 4 Motorway Service Areas;
- N63 Annagh Hill to Abbeyknockmoy; and
- N85 Kilnamona – Project Appraisal.

## N63 Abbeyknockmoy to Annagh Hill

Dates: 2014 - 2018  
 Client: Galway County Council  
 Position: Appraiser  
**Responsibilities:** Development of traffic models, and the Cost Benefit model using COBA software. Preparation of the Project Appraisal Report.  
**Project Description:** This Project consists of 3.2 km of Type 2 Single Carriageway (S2). The Proposed Scheme will link the village of Abbeyknockmoy to the proposed N17N18 PPP Scheme via a grade separated junction at Annagh Hill.

## N17/R320 Lisduff Junction Upgrade

Dates: 2018 – Present  
 Client: Mayo County Council  
 Position: Appraiser  
**Responsibilities:** Traffic analysis, traffic modelling and technical report writing for the project. Preparation of economic, financial and safety models for the scheme, co-ordination of the multi-criteria analysis and drafting the

Project Appraisal Reports, including the Preliminary Business Case and Detailed Business Case Reports.

**Project Description:** The proposed scheme comprises the upgrade of the existing at-grade junction of the N17 National Primary Road and R320 Regional Road, near Claremorris to a compact grade separated junction. The proposed junction layout will ban right turning traffic movements at the junctions with the N17 and will provide left in/ left out traffic turning movements only on the N17.

## N72/N73 Mallow Northern Relief Road

Dates: 2019 – Present  
 Client: Cork County Council  
 Position: Appraiser  
**Responsibilities:** Preparation of the Option Appraisal Report in accordance with TII Project Appraisal Guidelines at the end of the Option Selection Stage which required liaison and co-ordination with the design and traffic modelling teams.  
**Project Description:** A proposed N72/N73 Mallow Relief Road scheme is to be investigated, with an envisaged scheme length approximately 4km to 6km, providing a relief road of the town and removing through traffic from the congested Mallow streets. The proposed scheme is likely to be a Type 2 Single Carriageway.

## N3 Virginia Bypass

Dates: 2019 – Present  
 Client: Cavan County Council  
 Position: Appraiser  
**Responsibilities:** Preparation of the Option Appraisal Report in accordance with TII Project Appraisal Guidelines at the end of the Option Selection Stage which required liaison and co-ordination with the design and traffic modelling teams.  
**Project Description:** A proposed N3 Virginia Bypass scheme is to be investigated, with an envisaged scheme length approximately 16km, providing a bypass of the town and removing through traffic from the congested Main Street. The proposed scheme is likely to be a Type 2 Dual Carriageway.

## N80 Mountmellick Bypass

Dates: 2019 – Present  
 Client: Laois County Council  
 Position: Appraiser  
**Responsibilities:** Preparation of the Feasibility report in accordance with TII Project Appraisal Guidelines. Responsible for liaison and co-ordination with the design team, traffic modelling team and Laois County Council. Team Member on the Road Safety Impact Assessment.  
**Project Description:** Barry Transportation were responsible for the preparation of Concept and Feasibility documents for the Mountmellick Bypass which will be between 1.4km and 2.3km in length depending on the choice of route, and will consist of a single carriageway with cycle track and footway in both directions. The total width will be 18.8m excluding earthworks. The scheme will include at least five new junctions and will require works adjacent to the Owenass River and the culverting of a tributary of the River Barrow in at least one place.

## N85 Kilnamona – Project Appraisal

Dates: 2013  
 Client: Clare County Council  
 Position: Appraiser  
**Responsibilities:** Preparation of the traffic model for use on the assessment of the scheme. Carry out a Cost Benefit Analysis using COBA software. Preparation of the Project Appraisal Report for submission to the NRA appraisal team.

**Project Description:** This Project consisted of the realignment of the N85 at 3 No. locations along a 2km stretch at Kilnamona Co. Clare.

#### Tranche 4 Motorway Service Areas

Dates: 2015 – 2018 (on hold)  
Client: Transport Infrastructure Ireland  
Position: Appraiser

**Responsibilities:** Traffic analysis, traffic modelling and technical report writing for the project. Design Team liaison as well as liaison with TII Project Appraisal team. Preparation of economic and financial models for the scheme, co-ordination of the multi-criteria analysis and drafting the Project Appraisal Reports.

**Project Description:** Barry Transportation were responsible for the master planning, design and development of 3 no. Motorway Service Area facilities on the M3, M18 and the M6. The service areas comprise facilities for motorists and their passengers, which provide extensive parking, fuel station, toilet block, and restaurant food/outlet facilities.

#### N4 Active Travel Schemes

Dates: 2021  
Client: Sligo County Council  
Position: Project Manager / Appraiser

**Responsibilities:** Project Manager for the preparation of the Strategic Assessment Report which involved liaison with Mayo County Council and the wider appraisal team. Responsible for drafting the Project Appraisal Reports in accordance with the TII Project Appraisal Guidelines, Common Appraisal Framework (CAF) and Public Spending Code (PSC).

**Project Description:** Following the completion of the N4 dual carriageway linking Collooney to Castlebaldwin, Barry Transportation were responsible for the preparation of the SAR for the N4 Active Travel Schemes, which comprise the provision of cycle facilities linking Collooney to Castlebaldwin as well as Collooney Main Street to Union Road Business Park in accordance with TII's Project Appraisal Guidelines.

#### Cong Outer Relief Road SAR

Dates: 2021  
Client: Mayo County Council  
Position: Project Manager / Appraiser

**Responsibilities:** Project Manager for the preparation of the Strategic Assessment Report which involved liaison with Mayo County Council, the Strategic Research and Analysis Division (SRAD) in the Department of Transport and the wider appraisal team. Responsible for drafting the Project Appraisal Reports in accordance with the Common Appraisal Framework (CAF) and Public Spending Code (PSC).

**Project Description:** Barry Transportation were responsible for the preparation of the SAR for the Cong Outer Relief Road to the North of Cong village. The scheme options vary in length between 200m and 1250m depending on the chosen route. A minimum of one bridge and a maximum of two bridges will be required to span a dry canal and the Cong river. The carriageway cross section will incorporate an 8m wide carriageway and 2 No 4m wide shared footpath/cycle ways and 2 No 1m grass verges.

#### Selected Projects – Route/Site Selection:

##### Route/Site Selection

Dates: 2013 - Present  
Client: Various (public sector)  
Position: Traffic Engineer

**Responsibilities:** Responsible for assessing potential routes and sites under various engineering and safety criteria such as bendiness, gradient, altitude, traffic volumes, as well as various Social and environmental criteria such as population served, number of schools served, impact on wetlands, houses and agricultural lands.

**Project Description:** Engineer in the assessment of:

- Polihali Western Access Road and Polihali North Eastern Access Road for the Lesotho Highlands Development Authority;
- Regional Biosolids Storage Facility Site Selection; and
- Tranche 4 Motorway Service Areas Site Selection.

#### Lesotho Roads Programme

Dates: 2013 – 2014  
Client: Lesotho Highlands Development Authority  
Position: Traffic Engineer

**Responsibilities:** Responsible for the identification of deficiencies on the existing roads and assessing the potential routes and designs based on various engineering criteria such as bendiness, gradient, altitude, as well as various Social and environmental criteria such as population served, number of schools served, impact on wetlands, houses and agricultural lands.

**Project Description:** Barry Transportation were employed as consultant engineer on the route evaluation/selection of the proposed Polihali Western Access Road and Polihali North Eastern Access Road. The proposed roads, approximately 60km & 16km in length respectively, will provide the main access to Phase 2 of the Lesotho Highlands Water Project.

#### Tranche 4 Motorway Service Areas

Dates: 2015 – 2018 (on hold)  
Client: Transport Infrastructure Ireland  
Position: Traffic Engineer

**Responsibilities:** Responsible for the development of the traffic models utilised to assess the suitability of each potential site. Undertook the role of Road Safety Auditor in the Road Safety Impact Assessment which was utilised to assess the safety impacts of each proposed site.

**Project Description:** Barry Transportation were responsible for the master planning, design and development of 3 no. Motorway Service Area facilities on the M3, M18 and the M6. The service areas comprise facilities for motorists and their passengers, which provide extensive parking, fuel station, toilet block, and restaurant food/outlet facilities.

#### Regional Biosolids Storage Facility

Dates: 2017 - 2018  
Client: Irish Water  
Position: Traffic Engineer

**Responsibilities:** Responsible for the development of the traffic models utilised to assess the suitability of each potential site. Undertook the role of Road Safety Auditor in the Road Safety Impact Assessment which was utilised to assess the safety impacts of each proposed site.

**Project Description:** The requirement for a Regional Biosolids Storage Facility which serves the Greater Dublin Area was identified in the National Wastewater Sludge Management Plan by Irish Water. Barry Transportation were commissioned by Irish Water to develop a methodology for site selection, identify potential suitable sites, identify the preferred site and prepare a preliminary design with EIAR for the planning stage of the proposed facility. The proposed facility will store the treated sludge (known as biosolids) arising from the WwTPs within the

GDSDS area for the expected growth initially for 2040 design horizon equating to a approx. 45,000Tds/yr.

#### Tallaght to Liffey Valley Cycle Scheme

Dates: 2014 - 2017  
Client: South Dublin County Council  
Position: Traffic Engineer

**Responsibilities:** Identification of potential routes, preliminary design of routes brought forward for assessment and the preparation of route selection assessment criteria.

**Project Description:** The Tallaght to Liffey Valley cycle scheme is the development of a cycle route from the N81 in Tallaght to Liffey Valley, via to Newlands Cross, Clondalkin and the Grand Canal Cycle way. The project involves the selection of the preferred route, preliminary design, detailed design, tender assessment and contract administration.

#### Selected Projects – Temporary Traffic Management:

##### Temporary Traffic Management (TTM)

Dates: 2012 - Present  
Client: Various  
Position: Traffic Engineer

**Responsibilities:** Preparation of traffic management plans for local authorities and contractors including preparation of traffic management drawings, site assessments, identification of constraints, liaison, establishing safe construction methodology, undertaking design risk assessments and preparation of plans in accordance with legislative requirements.

**Brief Project Description:** Preliminary traffic management plans and traffic management specifications for various commissions ranging from minor road improvement schemes to large highway schemes, junction improvement, water and waste water and flood defence schemes. Projects include:

- N59 Moycullen Online Upgrade;
- N63 Abbeyknockmoy to Annagh Hill Online Upgrade;
- Road Safety Improvements at New Vale, Shankill;
- Tranche 2 NRA Service Areas PPP Contract;
- Hole-in-Wall Road Junction Upgrade;
- Lusk & Rush Waste Water Collection Networks; and
- Enniscorthy Main Drainage Stage 3 Sewer Networks.

##### N59 Moycullen Road Improvement Scheme

Dates: 2014 – 2015  
Client: Galway County Council  
Position: Traffic Engineer

**Responsibilities:** Preparation of preliminary traffic management plans for site investigation, advance works and construction contracts, including preparation of traffic management drawings, site assessments, identification of constraints, liaison, establishing safe construction methodology, undertaking design risk assessments and preparation of plans in accordance with legislative requirements.

**Brief Project Description:** This Project consists of a 1.3km online upgrade contract and a 4.3 km standard single carriageway offline bypass of Moycullen, Co. Galway. Barry Transportation's responsibilities include the Design of 9 No structures including 2 underpasses, 1 culvert, 4 river bridges, 1 overbridge and 1 underbridge. The design also included for approximately 0.5 km of piled formation of the bypass mainline through areas of peat varying from 5-11m in depth.

##### N63 Abbeyknockmoy to Annagh Hill Road Scheme

Dates: 2014 - 2018  
Client: Transport Infrastructure Ireland  
Position: Traffic Engineer

**Responsibilities:** Alan had responsibility for preliminary traffic management plan for the site investigation contract and the main construction contract. Tasks included site assessments, identification of constraints, liaison, establishing safe construction methodology, undertaking design risk assessments and preparation of plans in accordance with legislative requirements.

**Project Description:** This Project consists of 3.2 km of Type 2 Single Carriageway (S2). The Proposed Scheme will link the village of Abbeyknockmoy to the proposed N17N18 PPP Scheme via a grade separated junction at Annagh Hill. Barry Transportation's responsibilities for this scheme include Planning Reports, Environmental Reports, Preliminary Design, Compulsory Purchase Orders, Tender Design and Administration, Contract Documentation and Construction Supervision.

##### Enniscorthy Main Drainage Stage 3 Sewer Networks

Dates: 2014 - Present  
Client: Irish Water  
Position: Traffic Engineer

**Responsibilities:** Alan had responsibility for preliminary traffic management plan for the main construction contract, which required site assessments, identification of constraints, liaison, undertaking design risk assessments and preparation of plans in accordance with legislative requirements.

**Project Description:** Design and build contract based on Irish Water Major Works Contract for circa 10Km of sewer rehabilitation and upgrade works.

##### Road Safety Improvements at New Vale, Shankill

Dates: 2013 - 2015  
Client: Dun Laoghaire Rathdown County Council  
Position: Traffic Engineer

**Responsibilities:** Alan had responsibility for preliminary traffic management plan for the main construction contract, which required site assessments, identification of constraints, liaison, establishing safe construction methodology, undertaking design risk assessments and preparation of plans in accordance with legislative requirements.

**Project Description:** The scheme involves the installation of speed ramps and raised tables along Library Road, New Vale and Lower Road, construction of concrete footpath build outs at numerous locations throughout the scheme, construction of improved uncontrolled pedestrian crossing point, the installation of traffic bollards to restrict parking on Lower Road, and the installation of shared cycle facility road markings throughout the scheme.

##### Hole-in-the-Wall Road Junction Upgrade

Dates: 2012 - 2021  
Client: Fingal County Council  
Position: Traffic Engineer

**Responsibilities:** Preparation of preliminary traffic management plans for site investigation and construction contracts, including preparation of traffic management drawings, site assessments, identification of constraints, liaison, establishing safe construction methodology, undertaking design risk assessments and preparation of plans in accordance with legislative requirements.

**Project Description:** The scheme involves the design of 1.8km of single carriageway road including a railway crossing. The aim of the project is to improve traffic



movements in the area, improve road safety and provide pedestrian, cycle and public transport facilities to encourage sustainable development. The scope also included the preparation of a flood study report to assess the impacts on the Mayne River and tidal floodplain, and the design of a flood defence wall and overflow culvert.

### Selected Projects – Design:

#### Scheme Design

Dates: 2012 - Present  
Client: Various  
Position: Traffic Engineer

**Responsibilities:** Preliminary and detailed design of new cycle lanes to meet the National Cycle Manual guidelines, new pedestrian facilities, new road markings in accordance with the Traffic Signs Manual. Identification of utility conflict points, and liaison between design team and utility providers. Preparation of contract and tender documents.

**Project Description:** Preliminary and detailed design of various public and private schemes. Projects include:

- Ringsend Waste Water Treatment Plant Extension;
- Overend Way Junction Upgrade;
- Hole-in-the-Wall Road Junction Upgrade; and
- Rosslare Europort Traffic Management System.

#### Ringsend Wastewater Treatment Plant Extension

Dates: 2012 - Present  
Client: Dublin City Council/ Irish Water  
Position: Traffic Engineer

**Responsibilities:** Alan was responsible for identification of utilities located in potential conflict points, and the preparation of contract drawings including pavements, kerbs, signs & lines, drainage, fencing and proposed utility works for the Pigeon House Road Improvement Works and Spur Road Construction. Alan was also responsible for detailed design and preparation of tender documents for Advance Works 4 which comprises the provision of a new site access and internal link road.

**Project Description:** The project involves the upgrading and extension of the Ringsend WwTP from a capacity of 1.64 million PE to a 'firm' capacity of 2.1 million PE. A previous Design Review Report recommended the construction of long sea outfall (tunnel) circa 5 metres in diameter and 9 km in length to meet the required capacity. Barry Transportation are now preparing an Outline Design report recommending a viable solution to meet the future load while complying with the effluent standards of the receiving waters.

#### Overend Way Junction Upgrade

Dates: 2012 - 2013  
Client: Dun Laoghaire Rathdown County Council  
Position: Traffic Engineer

**Responsibilities:** Design of new cycle lanes to meet the National Cycle Manual guidelines. Design of new pedestrian facilities including tactile paving and a Toucan Crossing. Design of new road markings in accordance with the Traffic Signs Manual. Preparation of Tender documents and drawings.

**Project Description:** Barry Transportation were commissioned to carry out the detailed design of a junction upgrade in Balally to improve pedestrian and cyclist facilities. This involved the realignment of the existing junction, increasing cycle lane widths and providing new toucan crossings. The services provided were detailed design, traffic signal design, cost estimate and preparation of construction drawings and specification.

#### Hole-in-the-Wall Road Junction Upgrade

Dates: 2012 - 2021  
Client: Fingal County Council  
Position: Traffic Engineer

**Responsibilities:** Design of new cycle facilities to meet the National Cycle Manual guidelines. Design of new pedestrian facilities. Design of new road markings in accordance with the Traffic Signs Manual. Modelling of proposed junction upgrade using OSCADY software. Preparation of the Preliminary Traffic Management Plan.

**Project Description:** The scheme involves the design of 1.8km of single carriageway road including a railway crossing. The aim of the project is to improve traffic movements in the area, improve road safety and provide pedestrian, cycle and public transport facilities to encourage sustainable development. The scope also included the preparation of a flood study report to assess the impacts on the Mayne River and tidal floodplain, and the design of a flood defence wall and overflow culvert.

#### Rosslare Europort Traffic Management System

Dates: 2010 – 2013  
Client: Iarnród Éireann/Rosslare Europort Port Authority  
Position: Traffic Engineer

**Responsibilities:** Detailed design and preparation of tender documents for a range of measures to make the flow of traffic through Rosslare port safer and more efficient.

**Project Description:** The project was split into two separate elements – to identify deficiencies with the existing port traffic management system in the first contract and designing road marking and traffic sign improvements. The second contract involved designing specific civil engineering improvements to the port terminal building approach road including the removal of existing traffic islands and hard landscaping and design of a new road layout configuration and pavement.

### Selected Projects – Traffic Impact Assessments:

#### Traffic Impact Assessments

Dates: 2012 – Present  
Client: Various (private and public sectors)  
Position: Traffic Engineer

**Responsibilities:** Traffic analysis, traffic modelling and technical report writing for Traffic Impact Assessments (TIA) and Environmental Impact Assessments for public, commercial and domestic developments including development access and junction design at planning stage. Key tasks involved include:

- Identification of peak traffic times;
- Identification of key junctions impacted by the development;
- Traffic generation calculations;
- Junction modelling using ARCADY, PICADY and OSCADY;
- Network modelling using TRANSYT and VISSIM;
- Analysis of accident data;
- Analysis of impacts caused by the development on the local road network; and
- Preparation of the Traffic Impact Assessment document and Environmental Impact Assessment Report.

**Project Description:** Projects include:

- Carlow (M9) Motorway Service Area;
- Microsoft Ireland Dublin Campus, South County Business Park, Leopardstown, Dublin 18;
- Regional Biosolids Storage Facility;

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- St Patrick's University Hospital – West Wing Development;
- Knocklyon Phase 5 Residential Development;
- Dublin Airport Fuel Facility; and
- South County Gateway, South County Business Park, Leopardstown, Dublin 18.

## Ringsend EIS &amp; Planning Consultancy Services

Dates: 2015 – 2019  
 Client: Irish Water  
 Position: Design Engineer

**Responsibilities:** Traffic analysis, traffic modelling and technical report writing for the project. Client and Design Team liaison as well as liaison with GDD Scheme EIS team, as well as local authority and NTA modelling team.

**Project Description:** The project requires the application to alter the existing project consent to construct a 9km long sea outfall tunnel into Dublin Bay to discharge effluent outside of Dublin Bay's sensitive waters. The alteration to the planning involves the omission of the tunnel and associated works as an alternative treatment solution is proposed which will treat wastewater to a higher effluent standard. The project involves a 400,000 PE Aerobic Granular Sludge expansion along with retrofitting the existing sequencing batch reactor tanks. An Bord Pleanála have specified that a new EIS and NIS needs to be carried out prior to making a decision regarding the development. Water quality, odour, traffic and ecology surveys will be required for EIS and NIS.

## Tranche 4 Motorway Service Areas

Dates: 2015 – 2018 (on hold)  
 Client: Transport Infrastructure Ireland  
 Position: Traffic Engineer

**Responsibilities:** Traffic analysis, traffic modelling and drafting of the EIAR document.

**Project Description:** Barry Transportation were responsible for the master planning, design and development of 3 no. Motorway Service Area facilities on the M3, M18 and the M6. The service areas comprise facilities for motorists and their passengers, which provide extensive parking, fuel station, toilet block, and restaurant food/outlet facilities.

## Microsoft Ireland Dublin Campus

Dates: 2014  
 Client: Private Development  
 Position: Traffic Engineer

**Responsibilities:** Creating VISSIM model of Sandyford area, analysis of proposed junction upgrades, traffic generation calculations, the preparation of EIS document and the proposal of suitable mitigation measures.

**Brief Project Description:** Barry Transportation were commissioned to carry out a Traffic and Transport Assessment of a proposed office development at South County Business Park, Leopardstown, Co. Dublin. The proposed project involved the construction of a 34,500m<sup>2</sup> office development which included 558 car parking spaces. The assessment involved the use of both mathematical and visual micro-simulation modelling software to analyse the predicted impacts of the proposed development on the surrounding road network.

## South County Gateway Development

Dates: 2015  
 Client: Private Development  
 Position: Traffic Engineer

**Responsibilities:** Creating TRANSYT model of

Sandyford area, analysis of proposed junction upgrades, traffic generation calculations and preparation of Traffic and Transport Assessment document.

**Brief Project Description:** Barry Transportation were commissioned to carry out a Traffic and Transport Assessment of the proposed South County Gateway scheme at South County Business Park, Leopardstown, Dublin 18. The proposed development includes the construction of 3 No. office blocks. The assessment required the preparation of a TRANSYT traffic model of the Leopardstown Road signalised junction which was under construction at the time of writing.

## St Patricks University Hospital

Dates: 2017  
 Client: Private Development  
 Position: Traffic Engineer

**Responsibilities:** Creating TRANSYT model of James' Street Area of Dublin 8, analysis of proposed new and upgraded junctions, traffic generation calculations and preparation of Traffic and Transport Assessment document.

**Brief Project Description:** Barry Transportation were commissioned by St. Patrick's University Hospital to carry out a Traffic & Transport Assessment (TTA) for the development of a new ward block on the existing site of St. Patrick's University Hospital, Dublin 8. The two storey West Wing building will consist of a 102-bed unit and associated services to modern standards and will replace existing substandard accommodation currently in service within the hospital.

## Knocklyon Phase 5 Residential Development

Dates: 2017 - 2018  
 Client: Private Development  
 Position: Traffic Engineer

**Responsibilities:** Analysis of impacted junctions on the surrounding road network, traffic generation calculations, preparation of Traffic and Transport Assessment document.

**Brief Project Description:** Barry Transportation were commissioned to carry out a Traffic and Transport Assessment for the development of a mixed-use scheme on two sites with a combined area c.10.14 hectares. The proposed development comprised permission for a residential scheme and outline permission for the development of an educational campus (including sport and recreation facilities) and a public park.

## Dublin Airport Fuel Facility

Dates: 2014  
 Client: Private Development  
 Position: Traffic Engineer

**Responsibilities:** Analysis of impacted junctions on the surrounding road network, traffic generation calculations, preparation of Traffic and Transport Assessment document, and the proposal of suitable mitigation measures.

**Brief Project Description:**

Barry Transportation were commissioned to carry out a Traffic and Transport Assessment of the proposed Dublin Airport Authority (DAA) fuel pipeline from the fuel depot to Pier 4 and a proposed new into-plane fuel tanker loading facility located within the secure airside zone at Dublin Airport, Co. Dublin.

## Selected Projects – Mobility Management Plans:

### Mobility Management Plans

Dates: 2012 – Present  
Client: Various (private sector)  
Position: Traffic Engineer

**Responsibilities:** Analysis and technical report writing for Mobility Management Plans, for commercial and domestic developments at planning stage and post occupation. Key tasks involved include:

- Survey of existing staff;
- Analysis of survey results;
- Assessment of surrounding road network for pedestrian and cyclist facilities;
- Identification of existing public transport services;
- Development of measures to promote sustainable travel modes;
- Preparation of Car Parking Management Strategies; and
- Preparation of the Mobility Management Plan document.

**Project Description:** Projects include:

- Microsoft Ireland Dublin Campus, South County Business Park, Leopardstown, Dublin 18;
- Teleflex Offices, Athlone
- Mount Anville Primary School; and
- Knocklyon Phase 5 Residential Development.

### Microsoft Ireland Dublin Campus

Dates: 2014  
Client: Private Development  
Position: Traffic Engineer

**Responsibilities:** Development of a pre-occupation Mobility Management Plan, including survey of existing staff, extrapolation of future staff travel patterns, recommendation of interventions to promote sustainable travel modes, preparation of promotional material to inform staff of the key challenges associated with the new campus building, and development of a car parking management strategy.

**Brief Project Description:** Barry Transportation were commissioned to carry out a Traffic and Transport Assessment of a proposed office development at South County Business Park, Leopardstown, Co. Dublin. The proposed project involved the construction of a 34,500m<sup>2</sup> office development which included 558 car parking spaces. The assessment involved the use of both mathematical and visual micro-simulation modelling software to analyse the predicted impacts of the proposed development on the surrounding road network.

### Teleflex Offices, Athlone

Dates: 2015 – 2016  
Client: Private Development  
Position: Traffic Engineer

**Responsibilities:** Development of a pre-occupation Mobility Management Plan, including survey of existing staff, extrapolation of future staff travel patterns, and recommendation of interventions to promote sustainable travel modes.

**Brief Project Description:** Barry Transportation were commissioned by the Teleflex Incorporated to design a pre-occupation Mobility Management Plan for a proposed new office building, comprising a 3 storey, 4,180m<sup>2</sup> floor area development, to accommodate both existing and additional staff members.

### Knocklyon Phase 5 Residential Development

Dates: 2017 - 2018  
Client: Private Development

Position: Traffic Engineer

**Responsibilities:** Development of a pre-occupation Mobility Management Plan where the end occupier(s), and hence the numbers of residents and visitors, travel needs and trip characteristics, are unknown.

**Brief Project Description:** Barry Transportation were commissioned to carry out a Traffic and Transport Assessment for the development of a mixed-use scheme on two sites with a combined area c.10.14 hectares. The proposed development comprised permission for a residential scheme and outline permission for the development of an educational campus (including sport and recreation facilities) and a public park.



**NAME:** Mervyn Keegan

**ACADEMIC QUALIFICATIONS:** M.Sc. Environmental Science, Queens University Belfast (1998)

B.Sc. (Hons) Applied Biology, Coventry University (1996)

Diploma in Pollution Assessment & Control, Institute of Technology, Sligo (1995)

Diploma in Acoustics & Noise Control, Institute of Acoustics (University of Ulster, 2001)



**MEMBERSHIPS:** Member of Institute of Acoustics.

Associate Member of Institute of Environmental Management & Assessment.

**POSITION:** Director

**COMPANY:** AONA Environmental Consulting Ltd. (formerly Envest Environmental Ltd.) (2016 → )

**EMPLOYMENT HISTORY:** 1998 to 2000 – National Environmental Sciences

2000 to 2004 – RPS

2004 to 2012 – WYG

2012 to 2016 – Envest Environmental Ltd. (Director)

**CONTACT DETAILS:** Email: [mervynkeegan@aona.ie](mailto:mervynkeegan@aona.ie)

Mobile: +353 (0)87 9136491

Website: [www.aonaenvironmental.ie](http://www.aonaenvironmental.ie)

### EXPERIENCE SUMMARY

Mervyn is a Director of AONA Environmental Consulting Ltd. and has 20 years of experience in Environmental Consultancy.

Mervyn's main areas of expertise are in Noise, Air Quality & Odour impact assessment and mitigation design as well as Environmental Impact Assessment and IPPC Licensing.

Mervyn's role in AONA Environmental Consulting Ltd. involves the provision of environmental consultancy services in the following areas;

- Noise monitoring, prediction modeling, impact assessment & mitigation design.
- Air quality monitoring, air dispersion modeling, impact assessment & mitigation design.
- Odour monitoring, dispersion modeling & Impact Assessment - EPA Authorised Odour Inspector.
- Expert Witness - Oral Hearings / Public Inquiries and Legal cases.
- Management of multi-disciplinary teams for Environmental Impact Assessments for large projects.

Mervyn has produced Noise, Air Quality & Odour Impact Assessment reports to assess the impacts of a range of development types including road schemes, residential developments, industrial developments, quarries and mines and a range of renewable energy developments including wind energy developments among others. Mervyn also has extensive experience of applications and variations to Integrated Pollution Prevention and Control (IPPC) licences.



Mervyn has appeared as an expert witness at oral hearings, public inquiries and legal proceedings.

## **DETAILED EXPERIENCE**

### Environmental Impact Assessment – Air Quality & Noise

#### Infrastructure Schemes:

Mervyn has considerable experience in management of road schemes EIAs as well as completing many Air Quality and Noise & Vibration impact assessments for Road projects in both the Republic of Ireland and Northern Ireland. This work has involved detailed baseline studies, prediction modelling and appropriate mitigation design in accordance with National Road Authority Guidelines and International Standards. Mervyn has acted in a managerial role in various guises for many road schemes from constraints stage to route selection stage through to EIA / EIS and mitigation design of preferred route option. The list below outlines some examples of schemes on which Mervyn has acted as a project manager and / or consultant responsible for the completion of the Air Quality and / or Noise chapters for the Environmental Statement. Examples of road scheme on which Mervyn has worked include the following;

<b>Road Scheme</b>	<b>Client</b>	<b>Role</b>
N59 Corhawmagh to Crockcullion Realignment	Sligo County Council	Recently completed the Noise & Air Quality Route Selection Report for this scheme. The Noise & Air Quality Noise & Air Quality Impact Assessments will be prepared in 2020 / 2021.
N16 Sligo to County Boundary Realignment	Sligo County Council	Recently completed the Noise & Air Quality Route Selection Report and the Noise & Air Quality Noise & Air Quality Impact Assessments for this scheme.
N17 – R320 Junction Improvement	Mayo County Council	Recently completed the Noise & Air Quality Route Selection Report and the Noise & Air Quality Noise & Air Quality Impact Assessments.
N60 Manulla Cross	Mayo County Council	Recently completed the Noise & Air Quality Noise & Air Quality Impact Assessments.
N3 Virginia Bypass	Barry Transportation / Cavan County Council	Recently completed the Noise & Air Quality Route Constraints Studies. Due to complete Selection Report for this scheme. The Noise & Air Quality Noise & Air Quality Impact Assessments will be prepared in 2020 / 2021.
N21 Newcastle West Bypass & N21 Abbeyfeale Bypass	Barry Transportation / Limerick County Council	Recently completed the Noise & Air Quality Route Constraints Studies. Due to complete Selection Report for this scheme. The Noise & Air Quality Noise & Air Quality Impact Assessments will be prepared in 2020 / 2021.
N61 Tusk to Clashaganny & N61 Ballymurray to Knockcroghery	Roscommon NRDO	Recently completed the Noise & Air Quality Route Selection Report for this scheme. The Noise & Air Quality Noise & Air Quality Impact Assessments will be prepared in 2020 / 2021.
N6 Bothar na dTreabh - Kirwan Roundabout Improvement	Galway County Council / Barry Transportation	Recently completed the Noise & Air Quality Route Selection Report for this scheme and the Noise & Air Quality Impact Assessments.
N59 Moycullen Bypass	Galway County Council / NRDO Roscommon	Prepared the Noise Impact Assessment & Mitigation Designs for this scheme and provided Expert Witness at Oral Hearing.
N59 Westport to Mulranny	Mayo County Council	Prepared the Noise Impact Assessment & Mitigation Designs for this scheme and provided Expert Witness at Oral Hearing.
N59 Oughterard to Clifden (50 Km) road development	Galway County Council / NRDO Roscommon	Prepared the Noise Route Selection Report for this scheme and the Noise Impact Assessment & Mitigation Designs for the Clifden to Maam Cross and Maam Cross to Oughterard schemes and provided Expert Witness at Oral Hearings.
M20 Blarney to	Cork County	Completed the Noise constraints study, Route Selection study



Patrickswell (80 Km) road development	Council / WYG / ARUP	and the Noise Impact Assessment & Mitigation Designs. Provided Expert Witness at Oral Hearing.
N22 Baile Bhuirne to Macroom Road Development	Cork County Council / Hyder Consulting	Completed the Noise Impact Assessment & Mitigation Designs and provided Expert Witness at Oral Hearing. Currently undertaking noise prediction modelling for the final proposed alignment under construction.
Dundalk Western Infrastructure Route	Louth County Council	Project manager of Noise & Air Quality Route Selection Report and Impact Assessment studies.
A4 / A5 Dualling Scheme, Co. Tyrone	DRD Roads Service	Project manager of environmental constraints study and public consultation. Completed the Noise & Air Quality Route Selection study. Completed the Noise & Air Quality Impact Assessment at final design stage. Provided Expert Witness at Oral Hearings.
A4 / A5 Dualling Scheme, Co. Tyrone	Lagan / Ferrovial	Prepared environmental mitigation design and environmental management systems aspects of successful PPP proposal for scheme. provided Expert Witness at Oral Hearings.

### Residential Projects:

Mervyn has detailed noise and air quality impact assessments to accompany planning applications and adhere to Building Regulations compliance for a range of residential developments including housing estates and high-rise apartment and student accommodation developments. Many of these projects have been in close proximity to road and rail noise sources. This work involved baseline air quality and noise monitoring and associated air quality and noise prediction modelling. Appropriate air quality and noise mitigation design (including ventilation and glazing) ensured compliance with the relevant standards for such a development and aims at minimising the environmental impact of the proposed development. Examples include;

- >300 houses at Skeoge Link, Derry.
- 393 Bedroom Student Accommodation at Library Street, Belfast.
- Residential apartment development at Gresham Street Belfast.
- Large scale residential and mixed use development at Odyssey, Belfast.
- 151 Residential Units & Ancillary Uses On Land Adjacent To Quay Gate House, 15 Scrabo Street, Belfast.
- Apartment Development, Priorsgate, Tallaght, Dublin.

### Energy Projects:

Mervyn has considerable experience in the environmental impact assessment of Energy projects including large scale gas fired power plants, combined heat & power plants, bio-diesel plants, anaerobic digestion, etc. This includes detailed environmental assessments to accompany Planning and Industrial Pollution Prevention & Control (IPPC) Permit applications. This work involved baseline air quality and noise monitoring and associated air quality and noise prediction modelling. Appropriate air quality and noise mitigation design ensured compliance with the relevant standards for such a development and aims at minimising the environmental impact of the proposed development. Examples include;

- Air Quality, Noise & IPPC consultant for a **450 MW gas fired CCGT power plant** development at Belfast Harbour Estate for Belfast Power Ltd.
- Air Quality, Odour, Noise & IPPC consultant for an **Anaerobic Digestion Plant**. Biogas produced by the AD process will be bottled in a gas purification & bottling plant or combusted in an on-site CHP plant used to power the facility and export approx. 2.5 MW electricity to the National Grid.
- Project Manager of EIA as well as Air Quality and Noise consultant for 3 No. 15 MW **Combined Heat & Power (CHP) & Pelleting Plants** in Northern Ireland and Scotland.



- Project Manager of EIA, Air Quality and Noise consultant for a **350 MW gas fired power plant** development at Lumcloon Co. Offaly.
- Project Manager of EIA and Air Quality, Odour and Noise consultant for a **biomass processing and CHP and pelleting facility** in Co. Offaly.
- Project Manager for a series of **EIAs and IPPC Licence reviews** in order to broaden the range of alternative fuels used as part of a leading cement manufacturers sustainable fuel programme.
- Numerous Air Dispersion modelling assessments for **Short-term Operating Reserve (STOR)** facilities throughout the UK.

#### Wind Farms:

Mervyn has completed in excess of 100 Wind Farm Noise Impact Assessments in accordance with

- ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, Department of Trade and Industry (1996) and
- A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, Institute of Acoustics (May 2013).

This has included detailed long-term baseline noise, rainfall and wind speed monitoring surveys and the use of CadnaA noise modelling for the calculation, presentation and assessment of noise exposure and potential impacts from the Wind Farm sites in accordance with "ISO 9613; 1996 Acoustics – Attenuation of Sound Outdoors – Part 2 General Method of Calculation". Some Project examples include;

- Completion of detailed Noise IA for 10 No. 2.3 MW turbine wind farm development near Broughshane in Co. Antrim, including baseline surveys, prediction modelling and ETSU-R-97 Assessment.
- Completion of Noise IAs for in excess of 100 No. 250 KW single turbine wind farm development throughout Northern Ireland for Simple Power, including baseline surveys, prediction modelling and ETSU-R-97 Assessment.
- Project manager of EIA as well as Noise consultant for 12 MW Wind Farm in County at Koram Hill, Tyrone, Northern Ireland
- Numerous Post-Commissioning Noise Surveys for single wind turbines and wind farms to assess for compliance with relevant planning conditions

#### Airports:

Mervyn has considerable experience in the environmental impact assessment of Airport projects. Examples include;

- Project Manager for the Air Quality Impact Assessment for the proposed extension of the existing runway at a major Airport in Northern Ireland. Detailed air dispersion modelling was completed to assess the impact of the emissions from aircraft based on the recommendations of the US Federal Aviation Administration (FAA) for air quality analysis involving aviation sources.
- Project Manager of the WYG / BAP Noise Consultancy Team on the Dublin Airport Runway Network Development project. This necessitated the development of a study for the airport using the Federal Aviation Administration (FAA) Integrated Noise Model (INM) and included contours using the parameters outlined by the EPA,  $L_{den}$  and  $L_{night}$ .

#### Quarries & Mines:

Mervyn has considerable experience in the environmental impact assessment of Quarries and Mining projects. Examples include;



- Dalradian Gold Mine, Co. Tyrone. Project Manager for the Noise & Air Quality Impact Assessment for the proposed gold mine development. Long-term baseline surveys and CadnaA noise prediction and air dispersion modelling was completed to assess the impact of the emissions from the gold mine in accordance with stringent limits in a rural sensitive area. The project included detailed discussions with statutory consultees throughout.
- Numerous Quarry developments and extensions in the Republic of Ireland and Northern Ireland. Noise Impact Assessment including baseline surveys and CadnaA noise prediction modelling to assess the impact on sensitive receivers and adherence to quarry noise limit values.

#### Air Quality & Odour Impact Assessments:

Mervyn has completed odour impact assessment including odour monitoring and odour dispersion modelling for projects such as wastewater treatment works, mushroom composting industries, pig and poultry farming enterprises and restaurant and food businesses.

Mervyn is an "Authorised Odour Inspector" on behalf of the **Environmental Protection Agency**.

Mervyn has also supplied expert consultancy advice in relation to odour nuisance complaints received in relation to a range of processes. This consultancy advice has included subjective odour assessments, odour monitoring, odour dispersion modelling and the design of odour management plans.

Mervyn was Project Manager of the comprehensive air quality monitoring programme at Haulbowline in Cork, which included ambient air quality and occupational air quality monitoring methods to establish airborne concentrations of a range of pollutants, on behalf of the Department of Environment. The objective of the assessment was to provide the necessary data to establish current air quality conditions in the vicinity of the East Tip site of the former Irish Steel facility and to assess air quality relevant to those living in the surrounding area.

#### Occupational Health & Safety Assessments

Mervyn has completed many Occupational Health and Safety Assessments in accordance with relevant indoor air quality, noise at work and whole body and hand-arm vibration legislation. This work has been completed for a wide range of clients including major pharmaceutical and food industry leaders throughout Ireland.

#### IPPC Licensing:

Mervyn has project managed a number of **Industrial Pollution Prevention & Control (IPPC)** Licence Applications and IPPC Licence Reviews. These projects have included CCGT Power Plants, renewable energy plants, cement plants, energy plants, manufacturing facilities, mushroom composting plants, quarries, etc.

Mervyn also assists a number of companies on an annual basis in maintaining compliance with their Industrial Pollution Prevention & Control (IPPC) licence conditions. This often entails both air emission monitoring and noise monitoring and comparison of data with licence limits. This has often necessitated detailed advice in relation to mitigation design.

#### Provision of Technical Advice to An Bord Pleanála:

Mervyn is a Technical Expert & Advisor to **An Bord Pleanála** and is on the An Bord Pleanála Panel of Technical Consultants.





Training & Lecturing:

**Provision of Training** – Mervyn has provided a wide range of training in the areas of Occupational Hygiene, Noise at Work and Environmental Impact Assessment to a wide range of public sector and private industries through Accredited Training courses.

**University Lectures** – Mervyn has lectured for an EIA course (Air Quality & Noise aspects) at Portobello Institute. Mervyn has also lectured in UCD on the BSc in Occupational Safety and Health in relation to both Environmental Noise and Noise at Work best practise.

Expert Witness:

Mervyn has provided **Expert Witness** for many public and private sector clients for a range of projects on which he has prepared detailed air quality, odour and noise impact assessments including various road schemes, industrial developments, quarry developments.

Mervyn has also provided Expert Legal Witness in court hearings where Abatement Orders or Nuisance Claims have been taken against operators such as a leading Concrete Products facility and a leading Anaerobic Digestion operator.

Mervyn has also worked on behalf of Dale Farm Ltd. to assist in the overturn of a granted planning permission for residential development in close proximity to one of their sites.



Pat Roberts

## CURRICULUM VITAE

Pat Roberts is a Senior Ecologist and director of the Ecology team at MKO with over 13 years' experience. Pat's key strengths include his depth of knowledge and experience of a wide range of ecological and biodiversity topics. He currently manages the ecological team within MKO and ensures that the outputs from that team are of a very high standard and meet the requirements of the clients.

Current Role	Senior Ecologist/Director of Ecology
Qualifications	<ul style="list-style-type: none"> <li>&gt; B.Sc. (Environmental Science) (2005) National University of Ireland, Galway.</li> <li>&gt; BTEC N. Dip (Countryside Management) (1995).</li> </ul>
Memberships	<ul style="list-style-type: none"> <li>&gt; Member of Chartered Institute of Ecology and Environmental Management (CIEEM).</li> <li>&gt; Member of the Arboricultural Association.</li> </ul>
Years of Experience	<ul style="list-style-type: none"> <li>&gt; 14 years post graduate experience working as a professional ecologist.</li> <li>&gt; Over 10 years previous experience working as a nature conservation warden, tree surgeon/surveyor.</li> </ul>
Relevant Experience	<ul style="list-style-type: none"> <li>&gt; Director of the Ecology team at MKO with responsibility for ensuring that the outputs from that team are of a very high standard and meet the requirements of the clients and relevant legislation and guidelines.</li> <li>&gt; Urban tree surveys for residential and infrastructural developments including a tree survey of the Lower River Lee within Cork City as part of the OPW's flood relief scheme.</li> <li>&gt; Overseeing ecological assessments, Appropriate Assessment services and input into EIARs for numerous large scale developments including windfarms, flood relief schemes road projects, amenity, leisure and commercial projects.</li> <li>&gt; Overseeing invasive species surveying, treatment and management.</li> <li>&gt; Overseeing Ecological Clerk of Work services provided by the company for a variety of clients including Local Authorities, Private Contractors and Irish Water.</li> </ul>
Key Strengths & Areas of Expertise	<ul style="list-style-type: none"> <li>&gt; In depth knowledge and experience in ecological surveying for a wide range of habitats and species including Tree Surveys, Habitats, Bats, Mammals, Marsh Fritillary, Freshwater Pearl Mussel, Invasive Species, Aquatic Macro-invertebrates.</li> <li>&gt; Over 12 years post graduate experience of providing ecological services in relation to a wide range of developments at the planning, construction and monitoring stages.</li> <li>&gt; Excellent understanding of the Appropriate Assessment process and the requirements thereof in relation to plans and projects.</li> <li>&gt; Level of knowledge and experience to provide advice and services tailored to the requirements of the client.</li> </ul>
Practical Skills & Aptitudes	<ul style="list-style-type: none"> <li>&gt; Fourteen years' ecological experience with nine years' project management experience.</li> <li>&gt; Proficient in use of MS Office programs, GIS Mapping Software, AutoCAD.</li> <li>&gt; Certificate in Mammal Identification (Mammal Society).</li> <li>&gt; Freshwater Invertebrate Sampling (Field Studies Council).</li> <li>&gt; Bat Detector Workshop (Bat Conservation Ireland).</li> </ul>

<p><b>Key Skills:</b></p> <ul style="list-style-type: none"> <li>• Project Management</li> <li>• Archaeological Impact Mitigation.</li> <li>• Public inquiry experience.</li> <li>• Archaeological monitoring and excavation.</li> <li>• Preparation of archaeological reports.</li> <li>• PSCS on several major infrastructural contracts.</li> </ul>	<p><b>Qualifications:</b></p> <p>B.A. 1988 University College Dublin.</p> <p>M.A. (Celtic Archaeology) 1991, University College Dublin.</p>
<p><b>Career Summary:</b></p> <p>Donald Murphy has over 25 years of experience in professional archaeology, having founded Archaeological Consultancy Services Unit Ltd shortly after graduating from University College Dublin in 1991.</p> <p>He has acted as Senior Archaeologist and Project Manager on some of the largest infrastructural schemes undertaken in Ireland, including motorway projects such as the N52 Nenagh Bypass Link Road (2000), M1 Northern Motorway Project (2001–2002), N22 Ballincollig Bypass (2001), M4 Kinnegad–Enfield–Kilcock (2001–2004), M3 Clonee to North of Kells (2005–2010) and the N5 Westport to Turlough (2015–present). He was responsible for route assessment and resolution of any identified archaeological sites in advance of construction.</p> <p>Donald has also written several articles published in periodicals and has assisted in the publication of the results of the excavations undertaken by his company for the N4 Sligo Inner Relief Road (2007), M4 Motorway scheme (2008), M3 Motorway Excavations (2010), Portumna Castle Excavations (2012) and Corrstown Portrush Excavations (2012). He has also undertaken excavations on behalf of the National Monuments Service at Knowth, the Hill of Tara, Clonmacnoise and Mellifont Abbey.</p> <p>He also has extensive knowledge of archaeological surveying and has undertaken many magnetic gradiometry and topographic surveys.</p>	<p><b>Professional Affiliations:</b></p> <p>Member of the Institute of Archaeologists of Ireland</p> <p><b>Position within Company:</b></p> <p>Owner / Manager</p> <p><b>Date of joining Company:</b></p> <p>1992</p> <p><b>Photo:</b></p> 
<p><b>Relevant Recent Work Experience:</b></p> <ul style="list-style-type: none"> <li>• <b>2019–present:</b> Senior Archaeologist for WuXi Biologics Project, Haynestown, Dundalk, Co. Louth. <i>Client: WuXi Biologics.</i></li> <li>• <b>2018–present:</b> Project Manager (on behalf of AMS Ltd) for N52 Turin to Billistown Realignment, Co. Westmeath, Stages (i)–(iv). <i>Client: Westmeath County Council.</i></li> <li>• <b>2015–present:</b> Senior Archaeologist for N5 Westport to Turlough Road Project, Co. Mayo, Stages (i)–(iv). <i>Client: Mayo County Council.</i></li> <li>• <b>2017–2019:</b> Senior Archaeologist for Dublin Airport North Runway Project. <i>Client: Dublin Airport Authority.</i></li> <li>• <b>2017:</b> Senior Archaeologist for archaeological test excavations at New Children’s Hospital, Mount Brown, Dublin South City. <i>Client: National Paediatric Hospital Development Board.</i></li> </ul>	

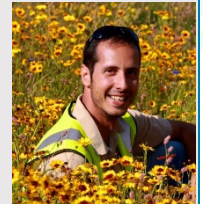
# Christos Papachristou

MSc MA  
Landscape Architect

JBA  
consulting

## Key Skills

- Habitat enhancement/ Wildflower meadows
- Naturalistic planting
- LVIA



## Short Biography

Christos is a dedicated Landscape Architect with a background in Agricultural Engineering. He specialises in enhancing the elements of a project that will increase their long term sustainable character. He has worked in landscape research, design and consultancy for 9 years in the UK and continental Europe.

Christos has assisted in the delivery of projects from Feasibility and Detailed Design through to, Construction and Maintenance from small residential projects to large infrastructure projects, with clients including TII, Highways England (HE), Transport for Scotland and High Speed Railway 2 (HS2). Other projects he has worked on include the Visual Assessments for the dualling of A96 as well as the M1 and M25 as part of the Smart Motorways Project and Kent County Council where he has been commenting on planning applications.

## Academic Qualifications

Date	Qualification	Subject	Educational Institution
2013	MA	Landscape Architecture	University of Sheffield, UK
2008	MSc	Agricultural Biotechnology/ Agricultural Engineering	Agricultural University of Athens, GR

## Professional Affiliations

Date	Designation	Body	Grade
2012	Member	Landscape Institute	Associate
2009	Member	Geotechnical Chamber of Greece	Full

## Professional History

Dates	Position	Company
2021 – Present	Senior Landscape Architect	JBA Consulting, Ireland
2019 - 2020	Senior Landscape Architect	epd - landscape, UK
2017 – 2019	Landscape Architect	Amey Consulting, UK
2016 - 2016	Meadows Specialist	University of Sheffield, UK
2012 - 2016	Development Officer	Green Estate/ Pictorial Meadows, UK

## Project Experience

Year	Position	Project, Client and Input (Selected experience)
2021	Senior Landscape Architect	<p><b>Hacketstown Design Statement. Client Carlow County Council.</b></p> <p>JBA was commissioned by Carlow CC Local Enterprise Office to write a community-led Village Design Statement. Following the collection of data from the consultation phase, Christos produced an action plan with short-, mid-, and long-term goals based on the findings of the consultation. This project is ongoing.</p>
2021	Senior Landscape Architect	<p><b>Luas Green Line extension. Client TII.</b></p> <p>As part of JBA's team of ecologists and landscape architects, Christos conducted site visits to record and assess the potential impact the various route options would have to the visual amenity and landscape character. This project is ongoing.</p>
2021	Senior Landscape Architect	<p><b>LVIA for Project Ironborn, Stepside, Dublin. Client Twinlite Dev Co Ltd.</b></p> <p>While working for JBA Christos was the senior landscape architect for the LVIA for a proposed residential development in Aiken's Village, Stepside, Dún Laoghaire. Given the short deadline and COVID travel restrictions, Christos had to use alternative means to accurately assess the effects of the proposed development.</p>
2021	Senior Landscape Architect	<p><b>N25 Lemybrien Traffic Calming, Waterford. Client TII and Waterford CC</b></p> <p>JBA led the landscape for the traffic calming scheme in Lemybrien with public realm aspects and based on Part 8 drawings. Following the draft production of the detailed designs, Christos reviewed the planting to be in accordance with Pollinator-friendly management of Transport Corridor, National Biodiversity Data Centre and from A Guide to Landscape Treatments for National Road Schemes, National Roads Authority in Ireland. The design of the scheme is in accordance with DMURS.</p>
2020	Senior Landscape Architect	<p><b>LVIA's for Glendale</b></p> <p>Epd-landscape was commissioned to carry out the landscape and visual impact assessment for two sites that Glendale owned and wanted to develop/ change use. The first site was an abandoned plant nursery in Gloucestershire to be developed into a Business Park and the second was an operating plant nursery in Kent that was to be developed into an ~160 residential estate. Christos project managed the LVIA in Gloucestershire and reviewed the LVIA in Kent. He also got involved in the production of verifiable photography for both LVIA's.</p>
2018-2019	Landscape Architect	<p><b>Advanced Planting for HS2</b></p> <p>Amey Consulting was commissioned by Fusion JV to conduct site visits and develop the planting plans that would enable the main construction works of HS2. The proposed alignment included a significant amount of ecological, historical and landscape designations that had to be accounted, nationally observed outcomes and rigorous design review meetings followed by extremely short deadlines. The landscape design had to work closely with the project's team of ecologists to translate the findings of their surveys into design solutions. Christos facilitated the communication and materialisation of the comments between the teams, prepared the deliverable drawings and documentation for a number of sites following BIM protocols. He was also responsible for reporting to the team on additional H&amp;S matters arising on-site.</p>
2019	Landscape Architect	<p><b>Lydney Cycleways for Gloucestershire CC</b></p> <p>As part of their Development Plan, Lydney Town Council were planning to increase cycle use amongst commuters and improve the connectivity between the town centre and the railway station with the construction of a cycleway network. Christos provided technical guidance on the way to work around tree roots pushing up paths. He also produced the planting plan and drafted the landscape Specification.</p>

## Project Experience

Year	Position	Project, Client and Input (Selected experience)
2019	Landscape Architect	<p><b>Grassland Enhancement for Highways England</b></p> <p>Amey were appointed by HE to produce the drawings for the implementation of the enhancement of the grasslands along the verges on the A1, A66, M66, A696. Christos led the site visits and design. At the end of the project, almost 15ha of new enhanced grassland along were designed, with 223.6kg of purely wildflower seed were sown and more than 51,000 long-flowering, good for pollinators plug-plants were planted. In the process, Christos was complemented for the spherical approach to the project and forward thinking that helped avoid procurement and budget shortfalls during construction.</p>
2019	Landscape Architect	<p><b>A96 Dualling (East Section) for Transport for Scotland</b></p> <p>Christos was part of the landscape team that assessed the impact of the suggested routes for the dualling of the link-road between Aberdeen and Inverness. He was responsible for identifying the recreational receptors for two of the suggested routes. He also drafted the baseline of views from the identified viewpoints and assessed the effects of the construction to the receptors of three of the proposed routes.</p>
2018	Landscape Architect	<p><b>Bell Road Soakaway for Kent CC</b></p> <p>Amey were appointed to come up with a solution to reduce the flood risk on a flood prone are of Sittingbourne, Kent. Christos produced the planting plans and Series 3000 specification for the site. He also identified ways to engage the local community in understanding the desired outcome of the project while increasing the sustainable character of the site.</p>
2018	Landscape Architect	<p><b>Lichfield Southern Bypass for Staffordshire County Council</b></p> <p>Part of a housing development scheme, SCC planned to extend Lichfield Southern Bypass (A461) to London Road (A5206) by adding an exit to the roundabout on Birmingham Road (A5127). Christos was tasked with the design and production of the Series 3000 specification for the mitigating planting of the areas adjacent to the roundabout.</p>
2017	Landscape Architect	<p><b>Let 'em Grow Urban Retreat by Giulio Passarelli and Karl Crowe</b></p> <p>While working as a sole practitioner, Christos was appointed as a consultant on the wildflower elements of a show garden in RHS Flower Show Tatton Park. He organised and conditioned the delivery of wildflower turf from Sheffield to Manchester. He also supervised the establishment of the turf and other trees and forbs on site. The garden received a Bronze Award.</p>
2016	Meadows Specialist	<p><b>Wildflower Meadows for the University of Sheffield (UoS)</b></p> <p>Christos joined the Estates and Facilities Management team of the UoS specifically to advise and train the landscape team's members of staff on the techniques of the establishment and maintenance of annual and perennial wildflower meadows.</p>
2015	Development Officer	<p><b>Green Roof for Blackburn Meadows Power Station</b></p> <p>Green Estate was subcontracted for the delivery of a 350m2 green roof/ garden on the offices of E.ON's power station in Blackburn Meadows, Sheffield. Christos designed the seed mix that would be sown on the green roof substrate to incorporate both elements of visual amenity for the members of staff as well as increase the habitat provisions to pollinators.</p>
2013 - 2016	Development Officer	<p><b>High Impact Wildflower Meadow Research for the UoS and Pictorial Meadows</b></p> <p>While working for Green Estate and Pictorial Meadows, Christos was responsible for the ongoing implementation and data collection and processing of Phases 2 and 3 of the research that was aiming to solidify the level of effect four key parameters had on the establishment of wildflower meadows from seed. He was also responsible for presenting the finding to groups of professionals interested in the dynamics of the establishment, management and maintenance of wildflower meadows.</p>

**Profession:**

Engineering Geologist/  
Geotechnical Engineer

**Specialisation:**

Geology & Geotechnics

**Position in Company:**

Associate Director

**Years of Experience:**

25

**Education:**

- ✓ BSc Hons Degree in Science, University College, Galway (1996)
- ✓ MSc in Environmental and Geo-Resource Engineering, University of Wales, Cardiff (1998)
- ✓ H Dip in Project Management, Trinity College Dublin (2008)

**Professional Status:**

- ✓ CEng – Chartered Engineer (2014)
- ✓ MIEI - Member, Institution of Engineers of Ireland (2000)
- ✓ PGeo – Professional Geologist (2018)
- ✓ EurGeol – Member of the European Federation of Geologists (2018)

**Health & Safety Training:**

- ✓ Designing for Safety in Construction (CMSE Training)
- ✓ Project Supervisor Design Process (ACEI)
- ✓ HazWaste online tool training
- ✓ SOLAS Safepass
- ✓ International Sea Survival Certificate
- ✓ Safety, Health and Welfare Management Systems
- ✓ Control & Safety at Roadworks
- ✓ Office Ergonomics

**Professional Experience:**

Deirdre O'Hara is a Senior Geotechnical Engineer with over 25 years' experience in geotechnics from project inception to post construction stage. Working from the Castlebar Office, Deirdre is currently team leader for the geotechnical requirements of the Dublin, Cork and Castlebar offices, undertaking design and project management of large site investigation contracts and following through with this information to design earthworks for large infrastructure projects, including roads, bridges, railways, flood alleviation, water and waste water pipelines and treatment plants and motorway service areas.

**Key Competencies:**

Broad knowledge of the geotechnical processes for highways, tunnelling and pipelines gained in both consultancy and contracting practices. This experience includes:

- ✓ Design and supervision of Design Management Build Road Contracts
- ✓ Design and supervision of Ground Investigations.
- ✓ Design experience includes:
  - ✓ embankments
  - ✓ cuttings
  - ✓ slope stability
  - ✓ sheet pile walls
  - ✓ retaining walls
  - ✓ tunnelling
  - ✓ piles (driven and bored),
  - ✓ foundations for structures
  - ✓ Flood Alleviation
- ✓ Producing interpretative reports for the construction of roads, bridges and buildings.
- ✓ Reviewing work programs and recording and assessing project progress.
- ✓ Assessing contract specifics.

- ✓ Use of Microsoft Office Project, SlopeW and SigmaW (finite element) computer packages.

**Employment History:**

- ✓ 2004 – Present – Barry Transportation
- ✓ 2003 – 2004 – WYG UK
- ✓ 2000 – 2003 - J. B. Barry and Partners Limited
- ✓ 2000 – Geofabrics, Australasia
- ✓ 1998 – 1999 – Irish Geotechnical Services Ltd

**Selected Projects:****Luas Finglas**

Dates: 2021 (ongoing)  
Client: TII  
Position: Geotechnical Lead

**Responsibilities:** Geotechnical Team Leader for delivery of the geotechnical design for a 4km Luas Project, the project includes a crossing of the Irish Rail line at Broombridge and the Tolka River Valley, particular aspects of the project include contaminated land and a 50m bridge structure across the Tolka River Valley which will include a cycle track.

**Brief Project Description:** A 4km extension of the Luas Green Line from the existing terminus at Broombridge to the N2/N50 interchange north of Finglas at Charlestown.

**N22 Baile Bhuirne to Macroom D&B (€200M)**

Dates: 2020 (ongoing)  
Client: Jons John Cradock CJV  
Position: Geotechnical Lead

**Responsibilities:** Geotechnical Team Lead for delivery of the geotechnical design for a 22km road project. Aspects of the project include a 35m cutting, flood alleviation culverts, embankment design within the Innishcarra reservoir.

**Brief Project Description:** A 22km Type 2 Dual Carriageway and associated side roads & 120 structures. Production of the GIR and GDR.

**N/M20 Cork to Limerick Road Improvement Scheme (€850 million 2010 estimate)**

Dates: 2019 (ongoing)  
Client: Limerick City & County Council.  
Position: Geotechnical Lead

**Responsibilities:** Geotechnical Team Lead responsible for the production of all TII geotechnical documentation for the scheme and the Soils and Geology Environmental Reporting.

**Brief Project Description:** The scheme will provide a high-quality road connecting Cork and Limerick, Ireland's second and third largest cities, which are 100km apart.

**N3 Virginia Bypass (Estimated scheme cost > €200m)**

Dates: 2019 (ongoing)  
Client: Cavan County Council  
Position: Geotechnical Lead

**Responsibilities:** Geotechnical Team Lead responsible for the production of all TII geotechnical documentation for the scheme and the Soils and Geology Environmental Reporting.

**Brief Project Description:** The proposed N3 Virginia Bypass scheme is to be investigated, with an envisaged scheme length approximately 16km, providing a bypass of the town and removing through traffic from the congested Main Street.

**N72/N73 Mallow Relief Road (Estimated scheme cost > €40m)**

## CV

Dates: 2020 (ongoing)  
Client: TII  
Position: Geotechnical Lead  
**Responsibilities:** Team Lead responsible for the production of all TII geotechnical documentation for the scheme and the Soils and Geology Environmental Reporting.  
**Brief Project Description:** The proposed N72/N73 Mallow Relief Road scheme is to be investigated, with an envisaged scheme length approximately 4km to 6km, providing a relief road of the town and removing through traffic from the congested Mallow streets.

### N16 Lugatober (Drumkilsellagh to Lugnagall)

Dates: 2020 (ongoing)  
Client: TII/Sligo County Council  
Position: Geotechnical Lead (2020)  
Soils & Geology expert (2018 EIAR Stage)  
**Responsibilities:** Team Lead for delivery of the geotechnical design including the production of the GIR & GDR for a 2.5km road job including a large embankment on soft ground & a large rock cut.  
**Project Description:** A 2.5km road Project including cycle tracks and forgoing road sides.

### N4 Collooney to Castlebaldwin D&B (€75M) PSDP

Dates: 2017 - 2020  
Client: TII/Sligo County Council  
Position: Geotechnical Designer  
**Responsibilities:** Geotechnical Designer responsible for the delivery of the particular requirements, technical acceptance reports for structures and geotechnical structures (piled embankments). Also review of Tender Submissions and attendance at Consultation Meetings and ongoing review of detailed design submissions.  
**Brief Project Description:** A 14.7km Type 2 Dual Carriageway and associated parallel Link Roads and upgrading of existing roads. 39 Principle structures including 4 Overbridges, 6 Road Underbridges, 2 River Bridges, Piled Embankment, 14 Culverts, Retaining Walls, Noise Barriers and Gantries.

### N56 Dungloe to Cloghbolie (PSDP)

Dates: 2018  
Client: TII/Donegal County Council  
Position: Geotechnical Team Leader  
**Responsibilities:** Geotechnical designer responsible for Earthworks Design.  
**Brief Project Description:** 8km road project which involves the widening of the existing online section and a new carriageway through the offline section. There are two structures, a hydraulic connectivity culvert and a river bridge. There is also a viewing area at Dungloe.

### Tranche 4 Motorway Service Areas - €60 Million (PSDP)

Dates: 2015 – 2018 (on hold)  
Client: Transport Infrastructure Ireland  
Position: Geotechnical Designer  
**Responsibilities:** Geotechnical Designer responsible for preliminary design of the earthworks and foundation design for the overbridges forming part of Motorway Service Area.  
**Brief Project Description:** Site selection, preliminary design, planning and Environmental Impact Assessment (EIA) to develop the M3, M6 and M18 MSA's.

### A737 Dalry Bypass- £35 Million D&B

Dates: 2017

**Deirdre O'Hara**  
BSc MSc HDip PM CEng MIEI PGeo EurGeo

Client: Fehily Timony & Company  
Position: Associate  
**Responsibilities:** Check Team Leader for independent check of the geotechnical design of a major road project in Scotland.  
**Brief Project Description:** 3.8km carriageway with 2 new roundabouts, 1 overbridge, 1 underpass, 2 watercourse diversions and a 290m viaduct.

### TEN-T Priority Route Improvement Project

Dates: December 2016 – Present  
Client: Donegal County Council  
Position: Associate  
**Responsibilities:** Section 3 Geotechnical Team Lead responsible for the production of all TII geotechnical documentation for the scheme and the Soils and Geology Environmental Reporting.  
**Brief Project Description:** Barry Transportation, with RPA, have been commissioned to deliver Phases 1 -4 of the Project Management Guidelines for 3 improvement schemes on the Trans-European Transport Network in Donegal.

### M17 Gort to Tuam PPP Scheme €550 million (D&B)

Dates: 2014 – 2016  
Client: Direct Route (Tuam) Ltd.  
Position: Section Lead  
**Responsibilities:** Designer Site Representative Section Lead for a seven person team on the Northern Section of the M17/M18 Motorway. Responsible for ensuring works are constructed to the design. Works include ground improvements, load transfer platforms, steepened slopes, identification and treatment of karst features.  
**Responsibilities:** Principal Earthworks Designer directly responsible for geotechnical design of 37 structures on the 57km long N17/N18 PPP scheme. Particular challenges include extensive areas of karst and soft ground areas. Delivery of Geotechnical Design Reports, Form C summary sheets and earthworks construction drawings  
**Project Description:** Northern Section includes approximately 20km of the N17/N18 high quality standard motorway link between Gort & Tuam and the Tuam Bypass in Co. Galway, over challenging ground conditions including extensive areas of karst and deep soft ground.

### M17 Gort to Tuam PPP Scheme €260 Million (PSDP)

Dates: 2014 – 2016  
Client: Direct Route (Tuam) Ltd.  
Position: Geotechnical Team Leader  
**Responsibilities:** Principal Earthworks Designer directly responsible for geotechnical design of 37 structures on the 57km long N17/N18 PPP scheme.  
**Project Description:** 57km high quality standard motorway link between Gort & Tuam in Co. Galway, over challenging ground conditions including extensive areas of karst and deep soft ground.

### N63 Abbeyknockmoy to Annagh Hill Road Improvement (PSDP) €5.6 million (PSDP)

Dates: 2014 - 2016  
Client: Galway County Council  
Position: Senior Geotechnical Engineer  
**Responsibilities:** Earthworks Designer directly responsible for geotechnical design of the project.  
**Project Description:** 3km road improvement project to link the proposed M17 junction at Annagh Hill and the recently upgraded section of the N63 to Abbeyknockmoy village.



**N56 Boyoughter to Kilkenny €8.1 million (PSDP)**

Dates: 2015 – 2017  
 Client: Donegal County Council  
 Position: Senior Geotechnical Engineer  
**Responsibilities:** Geotechnical design amendments during construction.

**Brief Project Description:** The scheme consists of the realignment and widening of approximately 5.2km of road to Type 3 Single Carriageway. The realignment is approximately 50% online and 50% offline in green field sites.

**N59 Moycullen Bypass Road Project (PSDP) €27.5 million (PSDP)**

Dates: 2013 – 2014  
 Client: Galway County Council  
 Position: Senior Geotechnical Engineer  
**Responsibilities:** Earthworks Designer directly responsible for geotechnical design of the project.

**Brief Project Description:** This project involves the design, under a traditional contract, of approximately 4.2km of offline and 1.4km of online two lane single carriageway national primary road.

**Motorway Service Areas**

Dates: 2007 - 2018  
 Client: TII  
 Position: Geotechnical Designer  
**Responsibilities:** Preparing the soils and geology chapter of the Motorway Service Areas EIAR for sites in Galway (M6-M17/M18), Meath (M3) and Clare (M18). Ground conditions varied from site to site including environmentally sensitive karst and peat.

**Brief Project Description:** The project scope includes the master planning, design and development of 3 no. Motorway Service Area facilities on the M3, M18 and the M6.

**Ringsend Wastewater Treatment Plant Extension - €200 Million (PSDP)**

Dates: 2008 – Present  
 Client: Dublin City Council  
 Position: Senior Geotechnical Engineer  
**Responsibilities:** Site supervision of offshore and onshore exploratory drilling to investigate the ground conditions for a 9km long sea outfall tunnel in the Irish Sea and its onshore ancillary facilities. Attendance at Oral Hearing.

**Brief Project Description:** The project involves the upgrading and extension of the Ringsend WWTW from a capacity of 1.64 million PE to a 'firm' capacity of 2.1 million PE.

**Geotechnical Engineer/Earthworks Designer**

Project: **N59 Farranharpy to Ballygreighan - €4.4M**  
 Dates: 2012  
 Client: Sligo County Council  
 Role: Problem solving following design of an active karst features.

Project: **N4 Lucan By-pass Upgrade - €40 Million**  
 Dates: 2007-2009  
 Client: Jons Civil Engineering  
 Role: Earthworks Designer

Project: **N17 Tuam to Claremorris**  
 Dates: 2007 – 2010  
 Client: Galway County Council/National Roads Authority  
 Role: SI Design, Preliminary Design of Earthworks

Project: **N4 Dromod Rooskey (€40 million)**  
 Dates: 2007-2009  
 Client: Leitrim County Council /National Roads Authority  
 Project: **N2 Finglas to Ashbourne (€85 million)**  
 Dates: 2007-2009  
 Client: Leitrim County Council /National Roads Authority

**Assistant DSR Roles**



**Profession:**  
Water / Wastewater Engineer  
**Specialisation:**  
Water / Wastewater Engineering  
**Position in Company:**  
Associate Director  
**Years of Experience:**  
19

**Education:**

- ✓ BSc Bachelors Degree (Hons) in Biotechnology, Dublin City University (2001)
- ✓ MSc Masters Degree in Environmental Engineering, Queens University of Belfast (2002)
- ✓ Diploma in Advanced Project Management from Dublin Business School

**Professional Status:**

- ✓ Member, Institution of Engineers of Ireland (2003)
- ✓ CEng – Chartered Engineer (2008)
- ✓ CEM – Certified Energy Manager

**Health & Safety Training:**

- ✓ FAS Safepass
- ✓ Office Ergonomics
- ✓ Designing for Safety in Construction
- ✓ PSDP

**Professional Experience:**

Paul qualified as an Environmental Engineer in 2002 and specialises in water and wastewater treatment processes. He is a Chartered Engineer with extensive experience in Ireland on a broad variety of projects from both the consulting and contracting perspective. Paul has worked as a project manager for one of Irelands leading water and wastewater DBO contractors before re-joining J B Barry and Partners recently where he had worked as a Senior Process/Project Engineer for 5 years. Paul has developed a wide range of professional skills in the feasibility, design procurement, implementation and operation of large scale water and wastewater infrastructure include sludge treatment facilities for Public and Private clients in Ireland and Overseas.

**Key Competencies:**

- ✓ Engineering & Management of Water & Waste Water Infrastructure Projects
- ✓ Sludge treatment process operation & optimization e.g. thermal hydrolysis, anaerobic digestion
- ✓ Energy Management & Energy Recovery on WWTP
- ✓ Design and Construction of Water, Waste Water and Sludge Treatment Processes & Facilities
- ✓ Design of Pumping Systems and Rising Mains
- ✓ Assessment of safety in design and during construction
- ✓ Preparation of contract documents, tender evaluation and monitoring of projects
- ✓ Procurement Reviews and Recommendations
- ✓ Construction supervision, Performance Testing & Commissioning of Plants
- ✓ Experience in operation of Water and Wastewater Treatment Plants.
- ✓ Project Management, Financial Monitoring and Control, Programme Manager

**Employment History:**

- ✓ 2014 – Present – J. B. Barry and Partners Limited
- ✓ 2010 – 2013 – EPS Pumping and Treatment Systems
- ✓ 2005 – 2010 – J. B. Barry and Partners Limited
- ✓ 2002 – 2005 – Bord na Mona Environmental Limited

**CFC Programme NW Region – Kiltimagh, Foxford, Wherrew, Swinford, Lough Easkey and Erris WTPs**

Dates: Mar 2019 - Present  
Client: EPS Water  
Position: Senior Process Engineer

**Responsibilities:**

- Site visit and asset survey assessments on identified WTP sites
- Specimen design for CFC incl. water treatment residuals design for each WTP
- Co-ordination a of specialist surveys and reports for planning applications
- Oversee the preparation and drafting of planning applications and design drawings

**Brief Project Description:** The Irish Water CFC Programme project identified a number of water treatment plant sites (approx. 20 no) which required upgrade works to known deficiencies in relation to the coagulation, flocculation and clarification process. J.B Barry & Partners Ltd. have been engaged by EPS Water to research, investigate, design, document, and secure the required planning permission for each of WTP sites to ensure compliance with the Irish Water Specifications.

**CFC Programme (Donegal) – Crolla WTP**

Dates: Mar 2019 - Present  
Client: EPS Water  
Position: Senior Process Engineer / Project Manager

**Responsibilities:** Responsible for Crolla Water treatment Design as follows: raw water analysis, pH correction, coagulant dosing, automation of coagulation process with streaming current process, Chemical storage and handling facilities, Flocculation tank, clarification enhancement, filtration automation, filter upgrades, post pH correction, new disinfection facilities.

**Brief Project Description:** The Irish Water CFC Programme project identified a number of water treatment plant sites (approx. 20 no) which required upgrade works to known deficiencies in relation to the coagulation, flocculation and clarification process. J.B Barry & Partners Ltd. have been engaged by EPS Water to research, investigate, design, document, and secure the required planning permission for each of WTP sites to ensure compliance with the Irish Water Specifications.

**Lee Road Water Treatment Plant Upgrade – (Stage (i) to (v)) - €27 Million**

Dates: 2015 - Present  
Client: Irish Water  
Position: Senior Water Process Specialist

**Responsibilities:** Paul has led the process design through the preliminary design, planning and detailed design stages. He prepared the process elements and performance requirements of the Contract Documents and inputted into the tender evaluation team.

**Brief Project Description:** Project involves the upgrading/replacement of the existing Water Treatment Plant with a design capacity of 40MLD to meet Irish Water Treatment Specifications at a plant which is the oldest, continuously used municipal water supply installation in Ireland. The oldest parts of the plant date as far back as 1768. The project interfaces with adjoining Irish Water pipeline projects (Western Trunkmain and the Shanakiel Rising Main). This project is due to be completed by the end of 2021.

**Ballyshannon Regional Water Supply Scheme (PSDP) - €16 million****Selected Projects:**

Dates: 2015 - ongoing  
Client: Irish Water  
Position: Senior Water Process Specialist  
**Responsibilities:** Preparation and review of all previous reports, surveys, planning/CPO documents and tender documents taking into account the revised project brief, treatment capacities and IW standards. Preparation of the Technical Design Report incorporating revised network (EPANAT models), revised WTP process design and cost estimates. Tender documents are complete and were issued to the market in 2017. A MEAT tenderer has been identified/recommended and awaiting contract signing.

**Brief Project Description:**

- 11,000m<sup>3</sup>/d intake works into Lough Asseroe
- 6000m<sup>3</sup>/d (Phase 1) – 11,000m<sup>3</sup>/d (Phase 2) WTP
- twin 450mm internal diameter intake pipes
- 400mm internal diameter raw water rising main
- 400mm internal diameter treated water rising main to Coolcholly reservoir
- Coolcholly Reservoir 2,000m<sup>3</sup> – 5000m<sup>3</sup>
- Kilclane Reservoir 1,000m<sup>3</sup>
- 400mm OD (SDR17, PE100) gravity main from Coolcholly reservoir to Parkhill.
- 355mm OD (SDR11, PE100) pumped rising main from Parkhill WTP to Kilclane Reservoir.
- Two booster pumping stations and associated distribution watermain.

**Inlet Works, Storm and Sludge Programmes Management Support Services - €12m (PSDP)**

Dates: Jan 2018 - Present  
Client: Irish Water  
Position: Project Manager

**Responsibilities:**

- Financial reporting: provide monthly breakdown of expenditure incurred (third party contracts, etc.) against project budget.
- Preparation and update the project programme on a monthly basis throughout the duration of the project
- Preparation of Contract Delivery Strategy Report
- Co-ordinating and managing preliminary contracts
- Overseeing project team on the following deliverables;
- Site condition and asset survey assessments on numerous WWTP sites in the north and west region
- Determination of PE loadings on each agglomeration
- Specimen design and technical options reports for each WWTP
- Gathering and collation of data from the various local authorities and plant operators
- Detailed Design reports including Site Investigation and Topographical Survey Contracts
- Planning applications and drawing preparation
- Preparation and drafting of contract documents for 5 no. Contracts including batches of up to 20 sites.

**Brief Project Description:**

The Irish Water Inlet Works, Storm and Sludges Programme project identified a number of wastewater treatment plant sites (approx. 60 no.) which required upgrade works to known deficiencies in relation to the inlet works, storm and sludge infrastructure. J.B Barry & Partners Ltd. have been engaged by Irish Water to research, investigate, design, document, procure, manage and supervise the required upgrades to each of the WWTP sites to ensure compliance with the Urban Waste Water Treatment Regulations and the EPA Waste Water Discharge Authorisation.

**Athlone WWTP (Contract No. 1) – Stage 3 - €4 Million (PSDP)**

Dates: 2016 - present  
Client: Irish Water/WCC  
Position: Senior Engineer

**Responsibilities:** Lead Designer, Detailed Design, Contract Documents Preparation for new WwTP upgrade to comply with EPA Discharge License ELVs.

**Brief Project Description:** The Environmental Impact Statement (EIS) for this project were completed by J.B. Barry and Partners Limited (JBB) and approved by the Department of the Environment, Heritage and Local Government. JBB were subsequently appointed to carry out the following detailed design and construction supervision stages of the project.

Contract No.1 involves the upgrading and expansion of the Wastewater Treatment Plant.

- New 60,000 PE Inlet Works with duty / standby screen c/w grit and grease removal system
- Upgrade activated sludge process from 25,000 to 40,000 PE with nutrient reduction requiring complete new aeration system.
- Replacement of the existing belt presses with new centrifuges, poly preparation unit and all ancillaries.
- Overall of MEICA equipment including new control panels and telemetry.

**4 Roscommon Regional Water Supply Schemes- Water Treatment Plants DBO Contract**

Dates: 2014 - present  
Client: Roscommon County Council  
Position: Senior Engineer

**Responsibilities:** Review all Contractors Process, Mechanical, Electrical and Automation Design Submissions. Construction Contract Administration.

**Brief Project Description:** 4 Roscommon Regional Water Supply Schemes for South Roscommon (13,000m<sup>3</sup>/day), Arigna (1,350m<sup>3</sup>/day), Roscommon Central (8,500m<sup>3</sup>/day) and Boyle Ardcarne (5,000 m<sup>3</sup>/day). The scheme involved the preparation of a design review report including an assessment of demands, groundwater and lake sources investigation, treatment work options, modelling of the existing network (EPANET) and investigation of upgrading options, planning and legal issues and cost estimates. Detailed design and contract documents for advance works contract incorporating production wells, reservoirs, pumping stations, rising mains and pipelines have been completed. Preparation of DBO contract documents for the 5 nr WTP complete.

**Ballyconnell Water Treatment Plant**

Dates: 2009  
Client: Cavan County Council  
Position: Senior Process Engineer

**Responsibilities:**

- Hydraulic design of WTP and tank volume selection
- Selection of mechanical equipment including sand filters for Iron and Manganese removal, pumps, chlorine dosing equipment and UV systems
- Coordination and supervision of AutoCad technician for mechanical and civil contract drawings
- Preparation of technical specification

**Roscommon Towns & Villages Sewerage Scheme - €22 Million (PSDP)**

Dates: 2006 - 2011  
Client: Roscommon County Council  
Position: Senior Engineer / Assistant Project Manager

**Responsibilities:** Managed and co-ordinated a multi-disciplined team; Define, procure and manage Third Party Surveys (Topographical, Archaeological, Ecological); Discharging the duties of PSDP; Preparation of Wayleaves and Landowner Liaison; Assimilative Capacities of receiving water to determine WwTP discharge standards; Preparation of Contract Documents (both IEI 3<sup>rd</sup> and FIDIC); Contract Procurement including pre-qualification and tender processes; Design Review of Contractor Design Proposals; Construction Supervision and administration; Preparation of Final Account and Handover Documentation.

**Brief Project Description:** The scheme involves the provision of new and upgraded wastewater treatment plants and sewerage networks for 14 towns and villages ranging in size from 500 to 3,200 PE in County Roscommon. Having completed the preliminary report JBB, in joint venture with WYG, were appointed for the Detailed Design, Contract Documents and Construction supervision stages. The project was split into nine construction contracts which involved the installation of 47km of pipelines and 13 pumping stations. A number of the Contracts were for advance works and networks. The majority of treatment plants were addressed under DBO Contract No.9 – Provision of 13 No, new and upgraded wastewater treatment plants including sludge treatment and disposal off-site for future re-use as part of the Sludge Management Plan (SMP). The Contract also required the determination of the WwTP Discharge Standards for each site using the assimilative capacity of the receiving water. Assistance to the LA was also provided to allow submission of WwDL Application to EPA. This Contract was signed in June 2011 completed November 2014.

#### Enniscorthy Main Drainage – Stage 3 - €14 Million (PSDP)

Dates: 2008 - 2010  
Client: Wexford County Council  
Position: Process Design Engineer

**Responsibilities:** Detailed Design, Contract Documents Preparation for new WwTP upgrade incorporating SBR technology and the design of a new Sludge Treatment Facility to cater for 60,000 p.e. to comply with EPA Discharge Licence ELVs. The project also included assessment of sludge disposal in line with the Sludge Management Plan (SMP) to produce a Class A bio solid suitable for future re-use.

**Brief Project Description:** The Preliminary Report (PR) and Environmental Impact Statement (EIS) for this project have been completed by J.B. Barry and Partners Limited (JBB) and approved by the Department of the Environment, Heritage and Local Government. JBB were subsequently appointed to carry out the following detailed design and construction supervision stages of the project. **Contract No.2** involves the upgrading and expansion of the Wastewater Treatment Plant.

- Upgrade from 16,000 to 30,000 PE with nutrient reduction.
- Provision of Sludge Dewatering and Treatment Hub facilities.
- DBO Contract with Trial use of FIDIC Gold Book.

#### Limerick Main Drainage O&M Contract

Dates: 2014  
Client: Irish Water  
Position: Senior Process Engineer

**Responsibilities:** Assessment of Limerick WwTP existing capacity and Sludge Treatment Facility (130,000 p.e) and investigating the feasibility of installing an

Anaerobic Digestion facility with continued use of the sludge dryer to produce a Class A Biosolid product suitable for future re-use. Estimated the kWh power generation that is produced as a byproduct and through the use of CHP generators can convert biogas to heat and electricity for subsequent use within the treatment facility.

**Brief Project Description:** Sludge Treatment with Anaerobic Digestion Option

#### Donegal Group B – Bundoran Design Review Report

Dates: 2008 to 2010  
Client: Donegal County Council  
Position: Senior Process Engineer

**Responsibilities:** Team Leader (Wastewater Treatment) for the Bundoran WwTP Design Review Report. Project comprises the design review of the existing preliminary report (2001) in preparation for the detailed design stage. Duties include;

- Determine the existing and future population equivalent (i.e. flow and load)
- Evaluate a range of wastewater treatment plant options and recommend the most economically advantageous technology to comply with EPA Discharge Licence ELVs
- Preliminary process and hydraulic design and budget costing for 3 different options

#### Ennis Main Drainage – Clonroadmore WwTP

Dates: 2008 to 2010  
Client: Clare County Council  
Position: Senior Process Engineer

**Responsibilities:** Clonroadmore WWTP Upgrade - Process and Hydraulic design the upgrade of the Clonroadmore WWTP for nitrogen and phosphorus removal to comply with EPA Discharge Licence ELVs. Proposed upgrades include introduction of biological nutrient removal, a new secondary clarifier, chemical phosphorus removal and final effluent sand filtration, as well as hydraulic and control systems upgrades. Design also included for an upgrade to the existing sludge dewatering facility capable of producing a Class A Biosolid for further treatment and future re-use.

#### Other Relevant Experience:

2011-2014,  
**EPS Pumping and Treatment Systems Ltd.– Project Manager**

#### Roscommon Towns & Villages Sewerage Scheme – WwTP DBO Contract No. 9 €8 Million (PSDP and PSCS)

Dates: 2011 - 2013  
Client: Roscommon County Council  
Position: Project Manager

**Responsibilities:** Construction Stage Project Manager for the DB phase;

**Brief Project Description:** Project comprised of the complete civil, mechanical, electrical and commissioning of 13 WwTPs in County Roscommon ranging in size from 700 p.e. to 3,200 p.e. including all associated control buildings, access roads and 7km of rising main and outfall pipelines.

Sites included Arigna, Ballinlough, Ballyleague / Lanesborough, Cootehall, Creagh, Elphin, Frenchpark, Hodson Bay, Knockcroghery, Loughglinn, Lisacul, Strokestown and Tulsk.

Tertiary filtration (Disk Filters) were provided at Strokestown, Ballinlough, Knockcroghery, Frenchpark

and Elphin to achieve a 5:5mg/l (BOD:SS) discharge standard.

A HMI/SCADA system was provided at each site to communicate with the overall county wide central SCADA system via GPRS modem.

Sludge Dewatering was provided and subsequent off-site Sludge Disposal to Sludge Treatment Facilities within the area for further dewatering and treatment (see below project).

#### Monksland WwTP - Grit handling and Sludge Acceptance Plant (PSDP and PSCS)

Dates: 2012  
Client: Roscommon County Council  
Position: Project Manager / Design Engineer

**Responsibilities:** Project comprises of all civil, M&E and commissioning of the grit trap, grit classifier and imported sludge acceptance plant for Roscommon Co. Co. Sludge arising from some of the newly constructed WwTPs in Co. Roscommon was required to be transported to Monksland WwTP for further dewatering and treatment subsequent to off-site disposal to a composting facility to produce a Class A sludge biosolid.

#### October 2005 – January 2006

##### Patterson Britton Consulting Engineers, Sydney, Australia

Engaged as a Project Engineer for the project management of **Buttai Water Reservoir Upgrade** detailed design stage using new Conditions of Contract. Duties Included;

- Preparation of contract documents and specifications
- Coordination of all civil, mechanical & electrical design
- Liaison with client, sub-consultant, structural engineer and draftsman
- Other duties include hydraulic design for Wagga Wagga WWTP upgrade

#### October 2002 – September 2005

##### Bord na Mona / Brightwater Engineering, Newbridge

#### Ballinhassig Membrane Bioreactor (MBR) WWTP DBO Contract €0.6 Million

Dates: 2005  
Client: Cork County Council  
Position: Project Manager  
**Responsibilities:** Construction Stage Project Manager for the DB phase;

#### May 2002 – October 2002

##### RPS Consulting Engineers

Engaged as a student engineer in conjunction with Queens University of Belfast. Duties included;

**Research Thesis: Use of Incinerator Bottom Ash in Road Construction in Ireland**

**Profession:**

Civil Engineer

**Specialisation:**

Water Services

**Position in Company:**

Senior Engineer

**Years of Experience:**

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**Education:**

- ✓ MSc in Financial Economics, University College Cork (2015)
- ✓ BE (Hons) in Civil Engineering, University of Limerick (2013)

**Professional Status:**

- ✓ CEng – Chartered Engineer, Institution of Engineers of Ireland (2020)
- ✓ MIEI – Member, Institution of Engineers of Ireland (2013)

**Training:**

- ✓ SOLAS Safepass
- ✓ Technical Report Writing (Engineers Ireland)
- ✓ HEC-RAS (JBA Consulting)
- ✓ Infoworks (Lyons Engineering)
- ✓ An Introduction to Hydraulic Network Modelling and SynerGi Water (Engineers Ireland)
- ✓ Occupational First Aid (CMSE Training)
- ✓ Water Safety (Sea and Shore Safety Services)
- ✓ Designing for Safety in Construction (ACEI, Engineers Ireland)
- ✓ MS Excel/Word Level 3 (Knowledge Market)
- ✓ MS Project Level 1 (Knowledge Market)
- ✓ Project Supervisor Design Process (PSDP) (ACEI and Engineers Ireland)

**Professional Experience:**

Paul is a Chartered Civil Engineer currently engaged with J. B. Barry & Partners working on water and wastewater projects. Paul has experience in the preparation of framework competitions, preparation of tender and contract documentation, preparation of design reports, hydraulic modelling, site supervision, and design and development of water treatment plants and networks.

Paul has been engaged as a team member on a range of projects that have used the Design/Build/Operate (DBO) form of contract.

Paul is competent with various hydraulic software programmes, capable of performing hydraulic analysis and calculations for use in a wide range of scenarios.

**Key Competencies:**

- ✓ Water treatment process design
- ✓ Preparation of contract documents (standard and DBO)
- ✓ Tender evaluation
- ✓ Design report preparation
- ✓ Hydraulic modelling
- ✓ Preparation of CPO documentation
- ✓ Contract administration

**Employment History:**

- ✓ 2015 – Present – J. B. Barry and Partners Ltd
- ✓ 2012 – 2014 – BHP Laboratories Ltd

**Lee Road Water Treatment Plant Upgrade – Stage (i) to (v) - €30 Million**

Dates: 2015 – Present  
Client: Irish Water  
Position: Project Engineer

**Responsibilities:**

- Input to preliminary design
- Preparation of the planning application
- Preparation of ground investigation tender documentation and supervision of works
- Pre-qualification questionnaire (PQQ) evaluation
- Preparation of tender and contract documentation
- Tender evaluation
- Preparation of CPO documentation and drawings
- Resident Engineer during the construction stage
- Resident Engineer
- Contract Administration

**Project Description:** Upgrading of existing WTP to meet Irish Water Treatment Specifications. We are the lead consultants in association with FT & Halcrow to Cork City Council.

**Ring Helvick Water Supply Scheme - €5 Million**

Dates: 2014 – Present  
Client: Irish Water  
Position: Project Engineer

**Responsibilities:**

- EPANET modelling
- Route assessment report
- Assisting in preparation of tender and contract documentation
- Pre-qualification questionnaire (PQQ) evaluation
- Tender evaluation
- Site Supervision

**Project Description:** New 930m<sup>3</sup>/day pumping station, two 300m<sup>3</sup> treated water storage reservoirs, 300m<sup>3</sup>/day pumping station to supply the upper reservoir and 7km of 250mm HDPE rising main and replacement of approximately 6km of distribution mains.

**Kenmare, Kilgarvan & Mountain Stage Water Supply Scheme - €4.7 Million**

Dates: 2014 – Present  
Client: Irish Water  
Position: Project Engineer/Manager

**Responsibilities:**

- Procurement and management of 3<sup>rd</sup> party surveys and analysis
- Preparation of the planning application
- Preparation of tender and contract documentation
- Tender evaluation
- Review of design submissions
- Project management
- Contract administration
- Site supervision

**Project Description:** The scheme involves the construction of four water treatment plants at Kenmare, Kilgarvan & Mountain Stage. Construction has completed on Kenmare WTP with the plant handed over to Irish Water. Construction is currently ongoing for the Mountain Stage Water Treatment Plants.

**Burncourt Regional Water Supply Scheme – Ballylooby Springs - €2 Million**

Dates: 2014 – Present  
Client: Irish Water  
Position: Project Engineer/Manager

**Selected Projects:**

**Responsibilities:**

- Preparation of a Design Report
- Procurement and management of 3<sup>rd</sup> party surveys and analysis
- Preparation of a Drinking Water Safety Plan
- Preparation of the planning application
- Preparation of tender and contract documentation
- Preparation of CPO documentation and drawings
- Project management
- Contract administration
- Preparation of Project Risk Registers

**Project Description:** A new water treatment plant is proposed with a capacity of 1,440m<sup>3</sup>/day, along with a new treated water 660m<sup>3</sup> capacity reservoir. A site investigation contract was undertaken along with trial well drilling, thereby eliminating the existing spring source.

**Whitegate WTP - €1.0 Million**

Dates: 2016 – 2018  
Client: Irish Water  
Position: Project Engineer

**Responsibilities:**

- Preparation of particular specification for works
- Design of pipework and hydraulic calculations
- Procurement and management of 3<sup>rd</sup> party surveys and analysis
- Site supervision
- Preparation of the Safety File

**Project Description:** The scheme involves the construction of a water treatment plant comprising two filters mounted in shipping containers, along with pipework, chemical dosing and sludge handling facilities.

**Lauragh and Tuosist Water Supply Schemes – €0.5 Million (PSDP)**

Dates: 2015 – 2017  
Client: Irish Water  
Position: Project Engineer

**Responsibilities:**

- Preparation of a Project Inception Report
- Procurement and management of 3<sup>rd</sup> party surveys and analysis
- Preparation of a Drinking Water Safety Plan
- Preparation of tender and contract documentation

**Project Description:** The scheme involves the augmentation of the existing supplies through boreholes or connecting the two schemes' networks. This scheme has since being incorporated into the Kenmare Mt Stage project and draft contract documents have been prepared.

**Cork WSS Ballynora Ballincollig Reservoir (PSDP)**

Dates: 2019 – Present  
Client: Irish Water  
Position: Project Engineer

**Responsibilities:**

- Preparation of Feasibility Study Report
- Preparation of Route and Site Selection Report
- Review of GIS data and network operation to facilitate construction of a hydraulic model

**Project Description:** Incorporate a high-level reservoir into the Cork Harbour & City Water Supply Scheme. The reservoir will provide storage for the Ballincollig area to the West of Cork City environs and provide adequate water supply infrastructure to meet the projected growth in population.

**Carrigaline Waste Water Pumping Stations**

Dates: 2019 – Present  
Client: Irish Water

Position: Project Engineer

**Responsibilities:**

- Flood Risk Assessment
- Preparation of Planning Application
- Detailed Design
- Preparation of Civil Specification

**Project Description:** Design of two new wastewater pumping stations to accommodate future housing developments to be constructed as part of the Carrigaline Western Relief Road project.

**Clonmore, Mallow – €7 Million**

Dates: 2016 – Present  
Client: O'Flynn Group  
Position: Project Engineer

**Responsibilities:**

- Design of a 450m length box culvert
- Hydraulic modelling and preparation of a design report
- Submission of a Section 50 application to the OPW

**Project Description:** Proposed development of 100 houses on a site within the existing housing development at Clonmore, Mallow, Co. Cork.

**Abbey Wood, Baneshane, Midleton – €7 Million**

Dates: 2016 – Present  
Client: Receiver via Hallmark Building Services  
Position: Project Engineer

**Responsibilities:**

- Preparation of a Flood Risk Assessment to form part of a planning application.

**Project Description:** Proposed development of 70 houses on a site within the Abbey Wood development at Baneshane, Midleton, Co. Cork.

**Housing Development at Maglin, Ballincollig - €2.5 Million**

Dates: 2018 – Present  
Client: Coleman New Homes Ltd.  
Position: Project Engineer

**Responsibilities:**

- Design of a hydraulic model of the Baneshane Stream to facilitate a Flood Risk Assessment of the site.

**Project Description:** Proposed new housing development on a greenfield site, adjoining existing residential development at Maglin, Ballincollig. The development requires upgrades to the existing Maglin Road and improvements to the existing Maglin Road/Killumney Road junction, including the provision of cycle and pedestrian routes, improved road-crossing facilities, improved connectivity to Ballincollig Town Centre, etc.

**Other Projects:**

Paul worked on the following project under previous employment:

**Fermoy South Drainage Scheme – Flood Protection Embankment**

Dates: May 2013 – Sep 2013  
Client: Lagan Construction  
Position: Civil Engineer

**Responsibilities:**

- Quality control and assurance of fill material

**Project Description:** This element of the project involved the construction of a flood protection embankment. The volume of fill material required to construct the embankment was approximately 55,000 to 60,000m<sup>3</sup>. The embankment was required to retain water and reduce any seepage to a tolerable level in the event of a flood.

## 04 // Sample Projects

### Kilrush Sewerage Scheme

Conor acted as the lead planning consultant on the recent planning application for upgrades to the Kilrush Sewerage Scheme in Co. Clare. He undertook pre-planning discussions with the local authority and coordinated the submission of the planning application. This included preparation of the Planning and Environmental Report and Environmental Impact Assessment Screening, as well as all statutory notices and forms, and completion of pre-validation exercises. The planning application was granted planning permission in June 2021.

### Grand Canal Dock Surface Water Extension Project

Conor provided planning support to JB Barry & Partners on the lodgement of the Grand Canal Dock Surface Water Extension Project. This strategic infrastructure application was made by Dublin City Council in partnership with Irish Water to address legacy issues related to the periodic discharge of sewage contaminated flows into the Grand Canal Basin. Conor prepared the planning policy and population and human health chapters for the EIAR, as well as the Planning Statement.

### Cork City Strategic Employment Locations Study 2021

Conor worked as part of the HW Planning team which prepared a Strategic Employment Locations Study for the review of the Cork City Development Plan 2022-2028. This report profiles Cork City based on employment-based socio-economic indicators; includes a market assessment in respect of supply, spatial distribution and vacancy; reviews the existing position in relation to land use zoning; establishes future employment land requirements; identifies future employment locations; and makes recommendations to inform the employment strategy in the forthcoming Development Plan. It is included here as an example of Conor's understanding of policy development, including underpinning evidence to plan for growth at macro and micro levels.

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**Conor Frehill**  
Director- HW Planning

#### 01 // Qualifications

BA (HONS) Liberal Arts, University of Limerick  
MA Regional and Urban Planning, University College Dublin

Chartered Member of the Royal Town Planning Institute

#### 02 // Profile

Conor has 14 years' experience in the planning profession comprising local authority roles and private practice. Conor has acted as planning lead on a wide variety of projects, including those with Environmental Impact Assessment Reports and Strategic Environmental Assessment exercises. His experience extends to planning policy development, local authority plan-making processes, the preparation of evidenced based strategies and leading on community-led planning initiatives.

He has also lead the coordination of planning applications for mixed use developments, strategic infrastructure and renewable energy projects.

Conor is a chartered member of the Royal Town Planning Institute and joined HW Planning in his current role in 2017. With a background in communications, the collection, management and critical review of information is at the heart of Conor's work, ensuring developed strategies are informed, effective and deliverable.

#### 03 // Key Skills

Data mining and analysis; statistical research and mapping; stakeholder engagement; evidence-based assessments; policy review and development; monitoring frameworks; viability assessment; report writing and presentation of material.