

# Winter 2019 Newsletter Roughan & O'Donovan



A6 Randalstown to Castledawson

# ROD 2019

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Harry Meighan

MANAGING DIRECTOR

Welcome to the Winter 2019 ROD Newsletter with articles on new project commencements, successful project completions, accreditations and new ROD people.

It is an auspicious year in ROD history in that it is 25 years since the incorporation of the limited company in October 1994, and 45 years since the ROD partnership was first established by Joe O'Donovan and Derry Roughan in 1974. I believe the ROD principles and ethos established by the founding partners have carried forward to the present day and will continue. This ethos revolves around delivering high quality services to our clients while taking a long-term organic perspective, not being motivated by short-term unsustainable gains. Our structure of shareholder employees facilitates this outlook and our process of internal succession fosters it into the future.

As with most companies, I imagine, there have been good and bad decisions made over those 45 years. One of the smarter ones was the decision to establish our own ROD Environmental team of ecologists, planners and scientists. This has facilitated conditions where our teams working on feasibility, option studies, preliminary design and statutory approvals include engineering and environmental professionals sitting beside each other, learning from each other and ensuring our designs are sustainable and respect the environmental constraints and legislation. This team structure has been replicated most recently for the Foynes to Limerick (including Adare Bypass) scheme where I am pleased to report the CPO and Environmental Impact Assessment Report were submitted to An Bord Pleanála on the 12<sup>th</sup> of December 2019 following an extensive effort by our team, led by Seamus MacGearailt and Michael Conroy, over the past 6 years.

Mike Bailey's article on the ROD Environmental Team's visit to the A6 Dungiven to Drumahoe site highlights the commitment of our environmentalists to their ongoing learning and professional development. They witnessed the implementation of their environmental designs, observed how compliance with the environmental planning conditions was achieved through the Contractor's Environmental Operating Plan, and came away with a better understanding of the practicalities of aligning environmental mitigation measures with construction methodology.

The dedication to personal CPD in our environmental team is reflected throughout ROD, and Ed Warren reports on our CPD re-accreditation audit in August. This saw our Engineers Ireland Accredited Employer status extended for a further 3 years with our CPD policies and processes certified to be at Advanced or Transformational level. We have been an Accredited Employer since 2004 and were the first recipient of the 'Spirit of Transformation' award.

Ed Warren also reports on the signing in early November of the contract between Mayo County Council and Wills-BAM joint venture for the construction of the N5 Westport to Turlough road scheme. This marked the culmination of 12 years work by ROD on the scheme for Mayo County Council and the National Roads Office. We congratulate the Mayo team, in particular Paul Dolan, Paul Hyland and Marian McHugh, and the TII team of Kieran Kelly and Tom Carr, who have steered the project during periods of economic boom and bust through to realisation.

At the time of going to print there are some recent tender successes to report on: Louth County Council has appointed us to a commission for contract administration and construction supervision on the N52 Ardee Bypass project and Westmeath County Council has just appointed the ROD-AECOM joint venture for TII Phase 1-4 services on the 60km N4 Mullingar to Roosky scheme.



Finally, I would like to express our admiration and gratitude to our colleague Jorge Castrillo, who travelled to Zambia in August to work for 2 weeks with 18 other volunteers from Engineers

without Borders Ireland on a Habitat for Humanity project. The project was the construction of housing in the Central Province town of Kabwe, which following a century of lead mining and smelting is now the world's most toxic town according to pollution experts. Jorge and the team constructed two houses for local families over the two weeks, all by manual labour.

*ROD wishes all our clients, colleagues and friends a peaceful Christmas and best wishes for 2020.*



# Northern Spire Bridge wins Transport Project of the Year at the BCI Awards 2019



As well as winning the ACEI Overseas Project of the Year Award, the Northern Spire Bridge in Sunderland has been named Transport Project of the Year at the British Construction Industry Awards. The bridge, which was designed by ROD in joint venture with Buro Happold, was selected as winner from a shortlist of seven, the other entries being Dover Western Docks Revival Scheme, Ely Southern Bypass, Hackney Wick Station, Victoria Station Upgrade, Wessex Capacity Alliance and Wigan Bus Station.

In a citation accompanying the award, the panel of judges, including Peter Molyneux, Major Roads Director, Transport for the North, and Shaun Pidcock, Major Projects Director, Highways England, congratulated the team on an “exemplary project” with the “potential to drive economic growth around it, improving safety and community pride.” Speaking after the awards ceremony in London, Tony Dempsey, Project Director at ROD, praised the whole project team, including Sunderland City Council, Farrans Victor Buyck Joint Venture, piling contractor Quinn Piling and specialist Fugro-Loadtest, for their dedication to the project.

## About the British Construction Industry Awards (BCIA)

The British Construction Industry Awards are the most prestigious awards in the built environment sector, with winning projects and teams rightly recognised for their achievements within the industry and the public at large. The awards seek to recognise and reward excellence in project delivery and, crucially, delivering outcomes for society and call on the whole project team - client, architect, designer and contractor.

*“This award is a tribute to the passion and commitment of the entire project team, whose readiness to push design parameters to new levels and ability to cope with the considerable complexities involved made the bridge such a compelling creation.”*

**Tony Dempsey**  
Director, ROD

# Examination period for Great Yarmouth's Third River Crossing begins



Article by Aonghus O'Keeffe

In September 2019, the UK's Planning Inspectorate started its examination of the proposed third crossing of the River Yare in Great Yarmouth, Norfolk. The process will take up to six months to complete. Construction is expected to begin in late 2020, subject to development consent.

The main feature of the scheme is a 50m clear span twin bascule bridge providing a new link across the River Yare to ease traffic congestion, reduce journey times and improve journey reliability. ROD is leading the detailed design of the scheme on behalf of BAM Farrans, a joint venture between BAM Nuttall and Farrans Construction. Our partners are Hardesty & Hanover, who provide global expertise in moveable bridges, and Norfolk-based architecture firm, Pro:works. Additional features include:

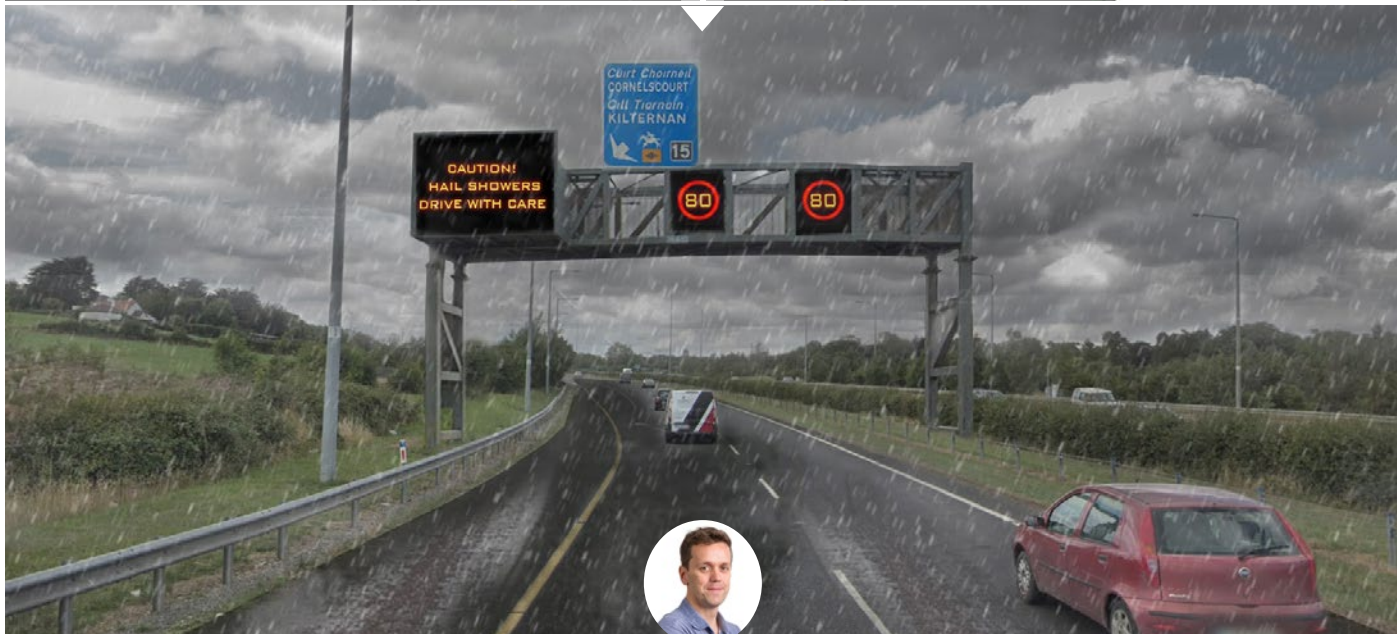
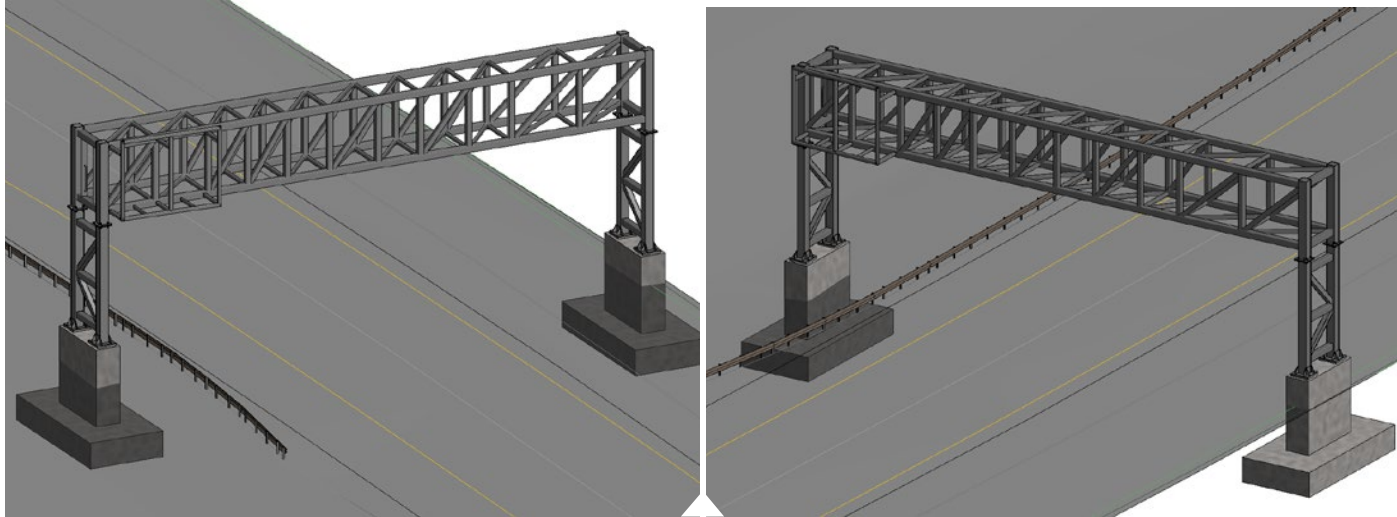
- junctions with the A47 to the west and South Denes Road to the east;
- dual carriageway approach roads;
- two single span bridges;
- reinforced earth pile-supported approach embankments;
- feature landscaping on the quayside to create a new public realm; and flood protection works.

The scheme is centered in an operational marine port, with commercial and residential properties along the approaches to the river crossing. Poor soil conditions and low-lying ground add further complexity.

*There is, quite literally, a sea of unique and energising opportunities just over the horizon – and the Third River Crossing is key to our future success, supporting our area-based plans to drive regeneration, investment and inclusive growth for the borough, Norfolk and wider region.*

**Councillor Graham Plant**  
Deputy Leader of Norfolk County Council and Great Yarmouth Borough Council





Article by Stephen Harper

## Gantry design for MTFO

ROD's Bridges and Intelligent Transport Systems (ITS) teams have been working closely together for over three years to develop the design of the infrastructure network to support the ITS equipment for the M50 Traffic Flow Optimisation project under the TII enhancing Motorway Operation Services (eMOS) framework. Innovative structural designs have been developed to facilitate extensive structural retrofitting works to many of the existing gantries on the M50. The retrofitting works will allow equipment, such as Advanced Motorway Indicators (AMI), Variable Message Signs (VMS), cameras etc. to be installed on the gantries

with ease.

ROD's proficiency in the use of Revit has allowed us to efficiently develop designs for 30 new gantry structures for the project. Our design team first developed a standard gantry design in Revit, before availing of the programme's capabilities to generate site-specific detailed gantry designs simply by inputting geometrical parameters of the motorway at any given location. With detailed design drawings produced automatically by Revit, the team has produced the gantry design packages with relative ease.



## ROD wears its support for GOAL Jersey Day with pride

At ROD, giving back in support of initiatives that positively impact society and the environment is a big part of the company culture. GOAL Jersey Day is one of our favourite days of the year, and this year was no exception. With our new Santry and Leeds offices celebrating the day as well as our team in Sandyford, we have never seen so many club, team, county, province and country jerseys worn with greater pride, or had so many sporting pundits giving voice to their opinions.

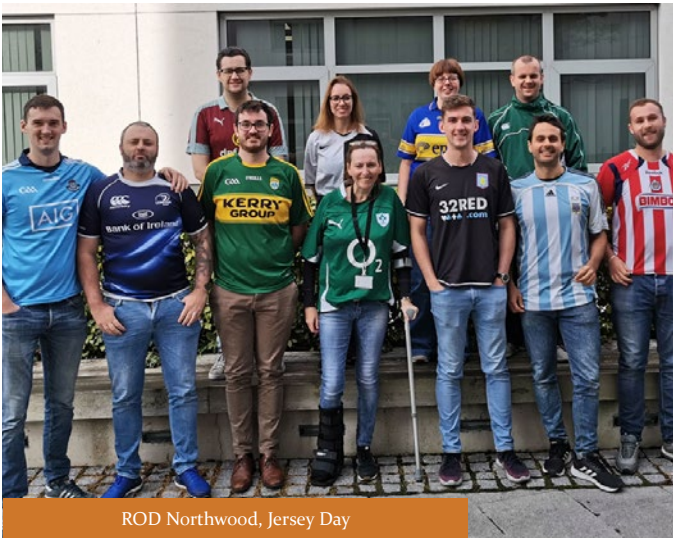
The blaze of bright orange, red, blue, purple and green shirts couldn't outshine our people, however, as everyone got into the spirit of the day, giving generously in support of GOAL's work in 13 different countries around the world. ROD's Managing Director, Harry Meighan, was delighted to see the level of support within the company for the initiative:



*We are very proud of our people and their efforts to make a positive impact in society. From volunteering on bridge projects in third world countries, to participating in charity cycles, to fundraising through cake sales, football matches and many other initiatives, our people always band tog ether to support a good cause. I am also delighted to see that the Black & Amber continues to be the most distinctive jersey in ROD.*

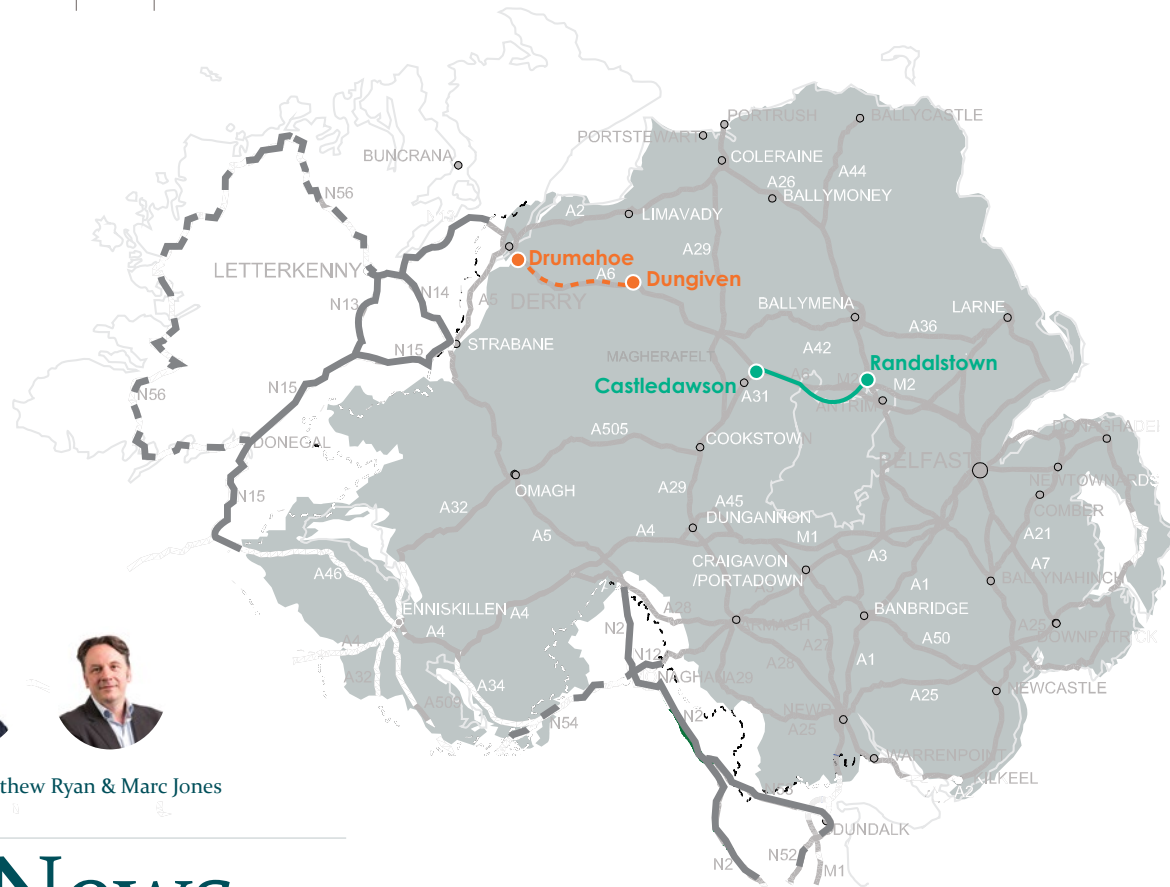


Harry Meighan  
Managing Director, ROD



**GOAL works towards ensuring that the poorest and most vulnerable in our world and those affected by humanitarian crises have access to the fundamental rights of life, including but not limited to adequate shelter, food, water and sanitation, healthcare, education and economic opportunities. GOAL's vision is for a world where poverty and hunger no longer exist; where communities are prepared for seasonal shocks; where structural and cultural barriers to growth are removed; and where every man, woman and child has equal rights and access to resources and opportunities.**





Article by Matthew Ryan & Marc Jones

# A6 News

ROD is delighted to be working on two major sections of strategically important infrastructure on the A6 between Drumahoe and Randalstown in Northern Ireland. These schemes form part of the North West Transport Corridor providing improved connectivity from Belfast to the North West via Toome, Maghera and Dungiven. Between them, these projects total some 41km of dual carriageway with 40 significant structures, 140 culverts, 3 park and ride facilities, numerous link, side and access roads and 6 compact grade separated junctions through environmentally designated areas with complex geotechnical ground conditions.

## A6 Randalstown to Castledawson ECI achieves major milestone

Since 2015, the ROD team, led by Marc Jones and Martin Brown, have been working with our DJV partner, Arup, and Graham Farrans JV (GFJV) design and construction teams carrying out the design and construction supervision of the £160m A6 dualling between Randalstown and Castledawson.

This scheme is our first Early Contractor Involvement (ECI) Project under the NEC3 form of contract and for the first 12 months the team worked closely with the Project Manager, AECOM, to develop and agree the Phase 1 Target Design which included scoping of targeted supplemental ground investigation and topographical surveys to mitigate risk and inform the developing design. Graham Farrans commenced construction in earnest towards the end of

2016 with the DJV completing the detailed design and establishing the Designer's Site Team.

The design is provided in accordance with the Design Manual for Roads and Bridges (DMRB) and other relevant technical memoranda, including Eurocodes and their UK National Annexes, as implemented in Northern Ireland. Our technical outputs have been subject to the approval procedures of DfI, Structures Technical Approval Authority (TAA), key stakeholders and the Geotechnical Advisor.

The 12<sup>th</sup> of September saw a major milestone with the official opening of the 7.5km section between Toome and Randalstown and re-opening of the Randalstown West Junction at the tie-in with the M22 by Katrina Godfrey, Permanent Secretary of DfI, representing an investment of some £85m. The event included local school children who delivered their poems about the new road to a captive audience.

There are an estimated 20,000 daily users and feedback has been extremely positive with motorists experiencing shorter, safer, and more reliable journey times whilst enjoying fantastic views of Lough Neagh.



## Work advancing on the A6 Dungiven to Drumahoe Dualling Scheme

With the first phase of the A6 Randalstown to Castledawson ECI open to motorists, work is continuing on the Dungiven to Drumahoe dualling scheme, at the other end of the A6. The £220 million scheme is one of the biggest roads projects undertaken in Northern Ireland. It involves the construction of nearly 25.5km of dual carriageway between Dungiven and Drumahoe, including a bypass of Dungiven, with roundabouts connecting the scheme to the existing road network at either end. The scheme includes four new grade separated junctions; three new roundabouts; 22 bridge structures; and over 65 culverts.

ROD's Marc Jones said, 'whilst respecting the wintering bird constraints around Lough Beg, attention is now focused on the Toome to Castledawson section and we are certainly looking forward to the scheme opening in its entirety'.



Roughan & O'Donovan (ROD) is delivering the detailed design for the scheme on behalf of the contractor consortium, Sacyr-Wills-Somague Joint Venture. We are also undertaking site supervision on the scheme. When complete, it is envisaged that the upgrade will improve road safety, reduce journey times and contribute to the economic development and prosperity of the region. Construction began in April 2018 and the upgrade is expected to be completed in spring 2022.

We have been able to build on the core Randalstown Team which brings a great deal of knowledge and directly relevant experience to the Dungiven Team.



A6 Design Team

Continuity of skilled and motivated people is a key factor in successful delivery





Article by Giovanni Battista Ragusa

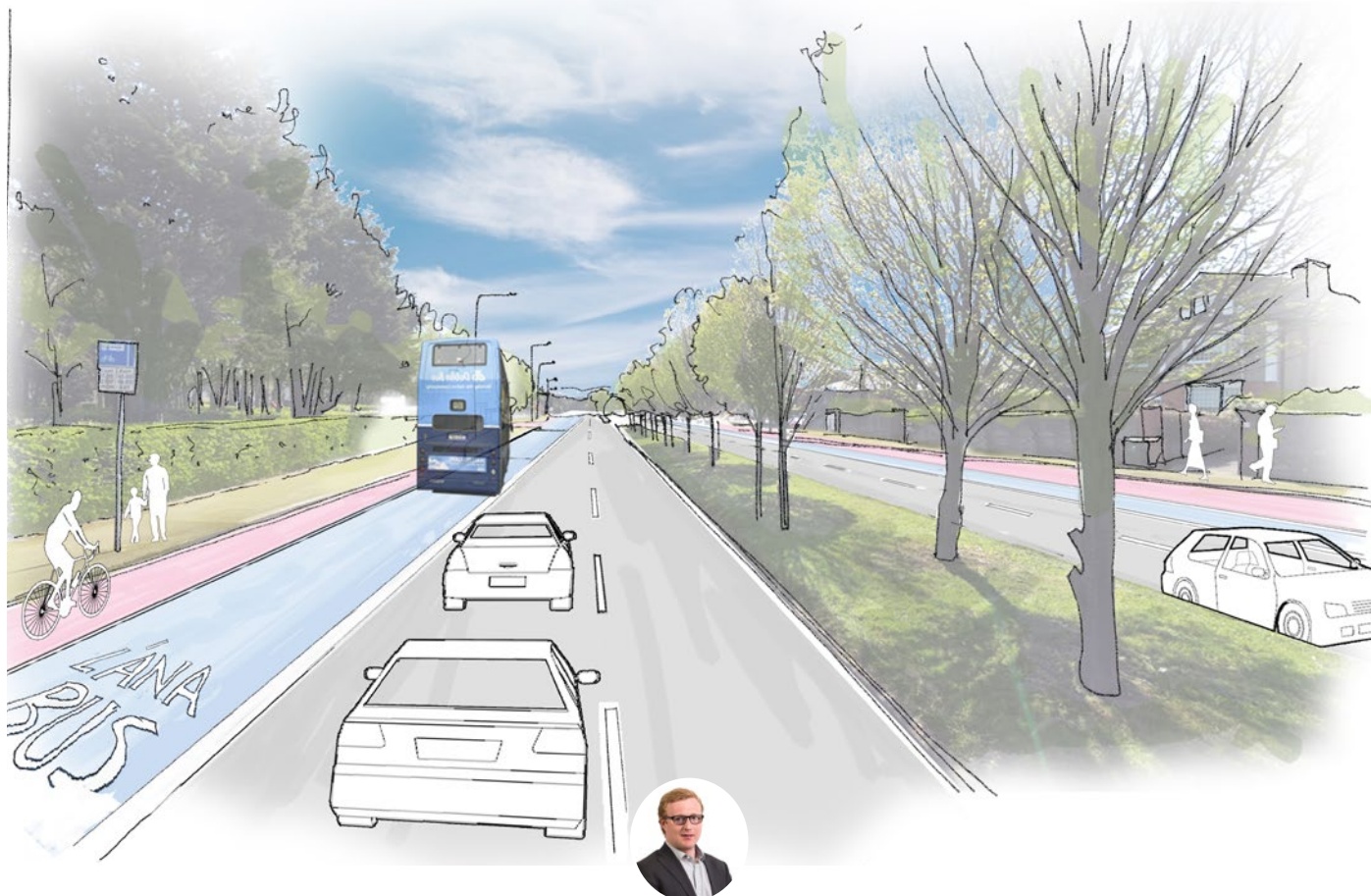
## Improved connectivity boosts Dublin's Docklands

Dublin City Council (DCC) is currently installing new and enhanced fibre communications infrastructure to support the ongoing development of Dublin's docklands. By adopting a coordinated approach to the provision of communications infrastructure, the council aims to reduce the number of trenches through existing roads, protecting the integrity of pavements and ensuring a coherent rollout of services infrastructure.

ROD was engaged by DCC to progress a pilot project to provide a single duct bank on Barrow Street to serve new developments along the street, including Google's €300 million development at Boland's Mills. The new duct bank will be administered by DCC and leased out to individual service providers.

ROD prepared and oversaw the contract, which was advanced using the PWC Short Form of Contract. The works were undertaken by KN Network Services over several weekends. As part of the scheme, a new gas connection was also installed, and Gas Networks Ireland collaborated with DCC to provide this.

Constructing the duct bank through a densely congested existing services environment proved challenging, and passing through the pinchpoint under the East Coast Mainline railway bridge was particularly complex. The success of the project was due in no small part to the problem-solving mentality of KN Network Services and the collaborative spirit within the project team.



Article by Eoin Ó'Catháin

## ROD partners with Spanish consultant TYPESA on BusConnects project

The National Transport Authority (NTA) has appointed ROD-TYPESA to progress BusConnects Infrastructure Project D, comprising the Ballymun, Finglas, Kimmage and Ringsend to City Centre bus corridors. The scope of the commission includes the finalisation of the option selection, the preparation of a preliminary design for planning, the defence of the schemes at Oral Hearing before An Bord Pleanála, and the preparation of a specimen design and tender documents for a Design and Build tender competition.

Significant resources have been deployed across ROD and TYPESA's offices to meet the challenging design programme. Extensive collaboration with the other three engineering design teams, as well as the separate Environmental

Assessment and traffic modelling teams, is also required. The BusConnects programme is being co-ordinated from a special project office set up by the NTA.

Our work to date has focussed on reviewing the feedback to the first public consultation, and to refine the initial concept designs to reduce and manage adverse impacts on local communities, where practicable. Extensive liaison with the public and local representative groups is ongoing. Our emerging proposals have in the main been positively received, and we will continue to work within the NTA and other stakeholders to deliver designs that garner the support of affected communities and the wider public whilst improving facilities for public transport, pedestrians and cyclists.





Article by Eoin Ó'Catháin

# Dublin Port Network Improvement project moves to construction

Work on the Dublin Port Network Road Improvement project, which is being constructed by Kilwex Civil Engineering under the supervision of ROD, is advancing on site. The project involves the addition of c. 1.5km of new roads to the circulation network, as well as the reconfiguration of existing roadways and junctions. Roadworks are due to continue through 2020. Dublin Port Company's preparations for Brexit have added an extra layer of complexity to the construction process, with certain elements of the works brought forward, and others delayed to meet changing requirements.

Construction milestones achieved to date include:

- Diversion of a 220kV electricity cable;

- Construction of a 50m ICD roundabout at the junction of Tolka Quay Road and Bond Drive, enabling all movements at the previously restricted junction;
- Earthworks and kerbing for the proposed 1.5km Promenade Road extension; and
- Services diversion for the proposed Bond Drive roundabout, pedestrian and cycle underpass.

ROD has prepared an updated detailed traffic model of Dublin Port to test various traffic management scenarios for the Port Company. It is being used to recommend revised routing options to minimise disruption, including in various Brexit scenarios.



Article by Giovanni Battista Ragusa

# N51/R147 Junction Improvement Works complete

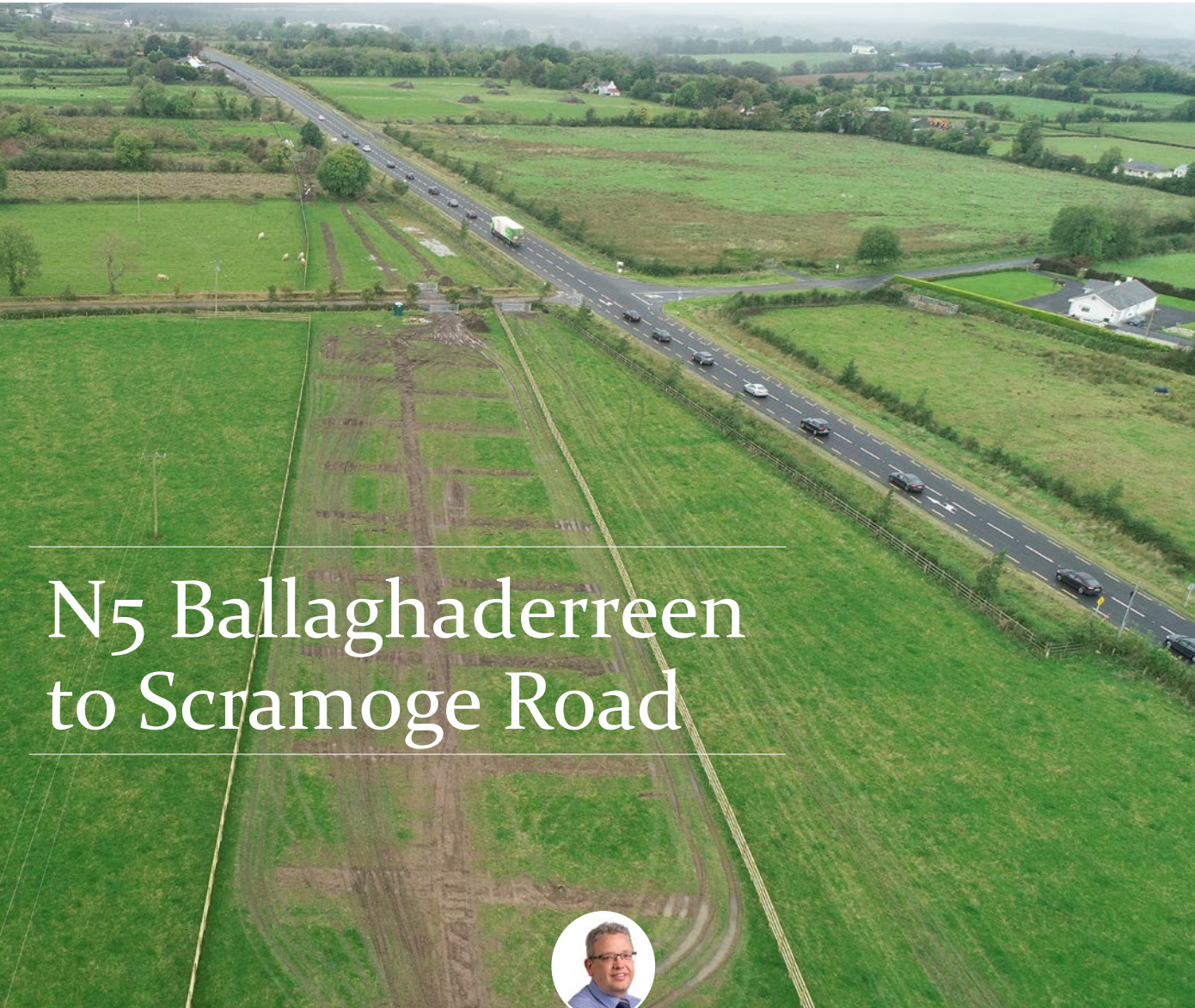
In 2017, Meath County Council, in conjunction with Transport Infrastructure Ireland (TII), engaged ROD to review the N51/R147 junction in Navan and to identify possible engineering measures to improve road safety. The emphasis was on non-motorised users (NMUs) and vulnerable road users in particular.

The intersection of the N51 national secondary road, the R147 regional road and a local access road was the scene of a total of 11 collisions - nine minor, one serious and one fatal - between 2006 and 2017. ROD proposed several options to enhance the existing layout to improve

pedestrian and cyclist facilities at the junction. A preferred design was selected, and ROD's engagement was renewed to include the implementation stage. ROD then undertook the detailed design, prepared tender documents, acted as Employer's Representative and provided resident engineering staff during construction.

The revised junction layout incorporates extended pedestrian and cycle facilities, and the works also included the full renewal of the traffic signalling and public lighting infrastructure. Roadstone Ltd. was the contractor on the project, which was completed in September 2019.





## N5 Ballaghaderreen to Scramoge Road



Article by Richard Spencer

ROD-AECOM alliance has been awarded the contract to provide procurement, contract administration, construction supervision and handover stage services for the N5 Ballaghaderreen to Scramoge Road project in Co. Roscommon. The contract provides a welcome opportunity for ROD-AECOM to continue our association with the project team in Roscommon National Roads Regional Office [NRRO] following our success in bringing the road development through the preliminary design and statutory planning phases.

To facilitate the main construction contract and its tender process, ROD-AECOM has prepared, procured and is currently undertaking site supervision and contract administration for several advance works contracts.

The contracts include:

- detailed ground investigation contract – in 2 Lots;
- detailed topographical survey contract; and
- advance fencing and hedgerow clearance contract.

ROD-AECOM has also undertaken alien invasive species surveys for the 34km length of the route. Our in-house team of ecologists has identified several strands of Japanese Knotweed within the site boundary, and the team is currently assisting Roscommon NRRO in developing a treatment strategy. The project team is also assisting the NRRO in the preparation of accommodation works designs and securing landowner agreements for the project, as well as preparing Advance Archaeological Contracts and preparing diversions for overhead ESB high voltage powerlines.

## Contracts signed for N5 Westport to Turlough Road



Article by Edward Warren

The contract for the construction of the N5 Westport to Turlough Road project has been awarded to Wills-BAM Joint Venture. The proposed road development involves the construction of 20km of Type 2 dual carriageway from Westport to east of Castlebar, a 2.5km Type 2 single carriageway bypass to the north of Westport, and a 2.3km Type 3 single carriageway upgrade of the N59 Westport to Mulranny national secondary road. The road will form part of the N5 national primary route, connecting Westport in Co. Mayo to Longford town, where it joins the N4-M4 to Dublin.

The signing of contracts marks the achievement of a significant milestone for ROD, as we have been providing support to Mayo County Council and Mayo National Roads Office for the delivery of the scheme for almost 12 years. Speaking at the contract signing, Mayo County Council Chief Executive, Peter Hynes, described the project as one that “will completely transform the landscape of Mayo.”

ROD-AECOM acted as consultant engineers for TII phases 1-4 planning and design stage of the project and, in August 2017, ROD was appointed by the council to undertake phases 5-7 of the project, including development of detailed works requirements, procurement, contract administration and construction supervision. The project is one of several major road schemes in the west of Ireland for which ROD is currently delivering engineering services. These include the N5 Ballaghaderreen to Scramoge, N26 Cloongullane, N60 Oran and N61 Ballymurray to Knockcroghery projects.

The delivery of these projects will provide economic development benefits for the west of Ireland and greatly enhance connectivity within the region, providing more balanced regional development. It will result in shorter journey times and safer trips, whilst also bringing the midlands and east of Ireland closer in terms of travel time and connectivity.





Article by Daire O’Riagan

# Construction of N56 Drumbeigh to Inver Road Scheme

Donegal County Council has appointed ROD to provide contract administration, construction supervision and handover stage services for the final phase of the N56 Drumbeigh to Inver road project. The scheme is located approximately 3.5km west of the village of Mountcharles. It comprises the construction of 2.5km of Type 1 single carriageway, with a 7.3m road carriageway, 2.5m hard shoulders and 3m grass verges. Works will include site clearance; fencing; safety barriers; drainage and service ducts; diversion of watermain and other utilities; accommodation works; landscaping and environmental mitigation measures.

When complete, the road development will improve the level of service and safety for all road users and enhance the accessibility of south west Donegal, Killybegs Port in particular. The project ties into the recently completed N56 Mountcharles to Drumbeigh Road scheme, for which ROD provided contract administration and site supervision services at the construction stage. Construction began in August 2019, with Wills Bros Ltd. as contractor. The scheme is expected to open to the public in early 2021.



Edward Warren & Marc Jones

Article by Edward Warren

# ROD becomes a registered professional with the Considerate Constructors Scheme

ROD is now a registered professional with the Considerate Constructors Scheme - an initiative established by the construction industry to promote a positive culture of safety and respect on construction sites, within the local community and the environment impacted by construction activity. As a registered professional, ROD is committed to ensuring the highest consideration towards the community, environment and its workforce in all its Irish and UK-based projects. Around 8,000 construction sites, companies, suppliers, clients and professional service organisations register with the Scheme each year. The Scheme launched registration in Ireland in 2017. Chief Executive of the Considerate Constructors Scheme, Edward Hardy, said: ‘We are thrilled to welcome Roughan & O’Donovan as the first consulting engineers in Ireland to become a registered professional with the Scheme. ‘Roughan & O’Donovan is demonstrating its commitment to raising its standards in considerate construction to help improve the image of our industry, and we look forward to more Irish and UK professional organisations joining the Scheme and realising the many benefits it offers.’

The Considerate Constructors Scheme is a not-for-profit, independent organisation founded by the construction industry in 1997 to improve its image. The Scheme contends that if all those working across the construction industry presented an image of competent management, efficiency, awareness of environmental issues and above all neighbourliness, then they would become a positive advertisement, not just for themselves but for the industry as a whole. Construction sites, companies, suppliers, clients and professional service organisations voluntarily register with the Scheme and agree to abide by its Code of Considerate Practice, designed to encourage best practice beyond statutory requirements. The code commits those registered with the Scheme to care about appearance, respect the community, protect the environment, secure everyone’s safety and value their workforce.

Attaining the highest standards possible on our projects is very important to us; it helps us not only win repeat business but also attract the very best people to work with us,’ said ROD’s Marc Jones. ‘Registration shows our clients, contractors and the wider community that we take construction standards seriously and are committed to improving the image of the construction industry



Marc Jones  
Director, ROD







Article by Laura Fernandez

## 130-bed block at St. Vincent's Hospital, Mountmellick

Since 2018, ROD has been providing civil and structural engineering design services for a new 130-bed replacement ward block, including 10 dementia-specific beds, at St. Vincent's Hospital, Mountmellick, Co. Laois. The scheme will provide circa 7500m<sup>2</sup> of modern healthcare facilities in three phases. The first and third phases involve the construction of two 50-bed units consisting of two-storey reinforced concrete framed buildings. They will replace the existing single-story accommodation. Phase 2 involves the refurbishment of a large section of the existing two-storey

building to provide a further 30 bed spaces.

The new block will achieve the spatial regulatory requirements of the HIQA National Standards for Residential Care Settings for Older People in Ireland. The project is currently at Design Stage 2, and planning submission is scheduled for Q1 2020. ROD's design team partners include Scott Tallon Walker Architects, Hayes Higgins Partnership, Atkins Global, FCC Fire Cert Ltd and O'Reilly Hyland Tierney & Associates.



Article by Jamie Downing

## 100-bed block at St. Vincent's Hospital, Athy

In 2016, ROD were appointed by the Health Service Executive (HSE) to deliver a new 100-bed ward block at St. Vincent's Hospital in Athy, Co Kildare.

St. Vincent's Hospital dates back to 1844 when it opened as a workhouse to house victims of the Great Irish Famine. Over the years, various extensions and additions have been constructed within the 12-acre site, and many of its buildings are now deemed unsuitable for modern healthcare facilities.

The new 5000m<sup>2</sup> building will house a 100-bed ward block arranged over two floors in two interlocking squares with private courtyards. It will also contain two purpose-built dementia wings incorporating green roofs.

The project is currently at Design Stage 2b, with a planning submission scheduled for Q1 2020.

ROD's fellow design team members include Van Dijk Architects, J.V. Tierney, FCC, Linesight and DWP.



# Housing Developments in County Laois



Article by Kieran O’Riordan

ROD is working with Laois County Council on five social housing projects - two in Rathdowney; two in Mountmellick; and one in Ballyroan.

Detailed design has been completed on three of the projects. Tenders have been received for the Rathdowney project while stage three submissions have been made to the Department of Communications, Climate Action and Environment for the Mountmellick and Ballyroan projects. The structural model has been produced using Revit 2019, and the design team has followed a BIM process throughout.

Poor ground conditions, with contaminated materials and low bearing capacities at shallow levels, proved challenging on three of the sites. The project team, which included OBFA Architects and Austin Reddy Quantity Surveyors, evaluated multiple foundation solutions from both constructability and financial perspectives before identifying the best design concepts. We also ensured that the pricing documents accurately reflected the costs associated with contaminated material removal.

The super-structure with load bearing masonry cavity walls and open web joists is consistent across all five sites. The open webjoists eliminate the need for internal load bearing walls at ground floor level, providing greater flexibility for future use, reducing the amount of foundations required, and allowing additional flexibility during the installation of mechanical and electrical (M&E) services.

Our team met with affected property owners to discuss risks, construction methodology, site access and to agree working space to enable the construction of boundary retaining walls.



Ballyroan housing development



Rathdowney housing development



Ballyroan housing development



Article by Stephen Shorthall

## Work advances on the CNU by PPP project

In October 2018, the Health Service Executive (HSE) appointed ROD to act as both civil and structural designer and Technical Advisor (TA) for Public Private Partnership (PPP) set to deliver 9 community nursing units (CNUs) across Ireland.

Since then, ROD has been progressing the civil and structural design of each of the CNU sites, with planning for 9 CNU’s submitted in Q3 and Q4 of 2019.

In our capacity as civil and structural TA, ROD is overseeing, managing and verifying the delivery of the civil and structural design team (DT) to ensure the development of all 9 CNUs is co-ordinated at a national level.

The primary focus of the DT effort has been on progressing the preliminary design through to developed design and subsequently Planning Permissions for each of the sites. Pre-planning consultations have also taken place with the relevant local authorities, and engagement with third parties, such as Irish Water, is currently ongoing.

To keep abreast of developments in the industry, such as the recently revised protocol for liaison with Irish Water regarding the connection application process, several members of our buildings team attended the Association of Consulting Engineers of Ireland (ACEI) Connections and

Developer Services workshop held in March 2019. It was beneficial in helping us achieve the required approvals prior to planning.

DT input also included working closely with our design partners, MCA Architects and Semple & McKillop in adopting BIM processes in accordance with ISO 19650, and Revit models have been developed for each of the CNU sites.

ROD is also providing TA services to the HSE during the PPP competition. To this end, we have, in conjunction with the TA team, contributed to the pre-qualification documentation, schedules, project agreement and tender requirements. We have also helped the HSE and the TA QS in arriving at a public sector benchmark (PSB) for the scheme and participated in a risk workshop with the TAs, HSE and National Development Finance Agency (NDFA) aimed at identifying suitable risk allocation and quantification. The outputs of the workshop were used to establish inputs to the Public Sector Benchmark (PSB) for the scheme.

In Q1 2020, the HSE will identify which of the sites will form part of the PPP bundle. The remainder of the sites may be progressed through the traditional design and construction approach.





Article by Aoife O'Keeffe

## Inspiring future generations: TCD Long Room Redevelopment

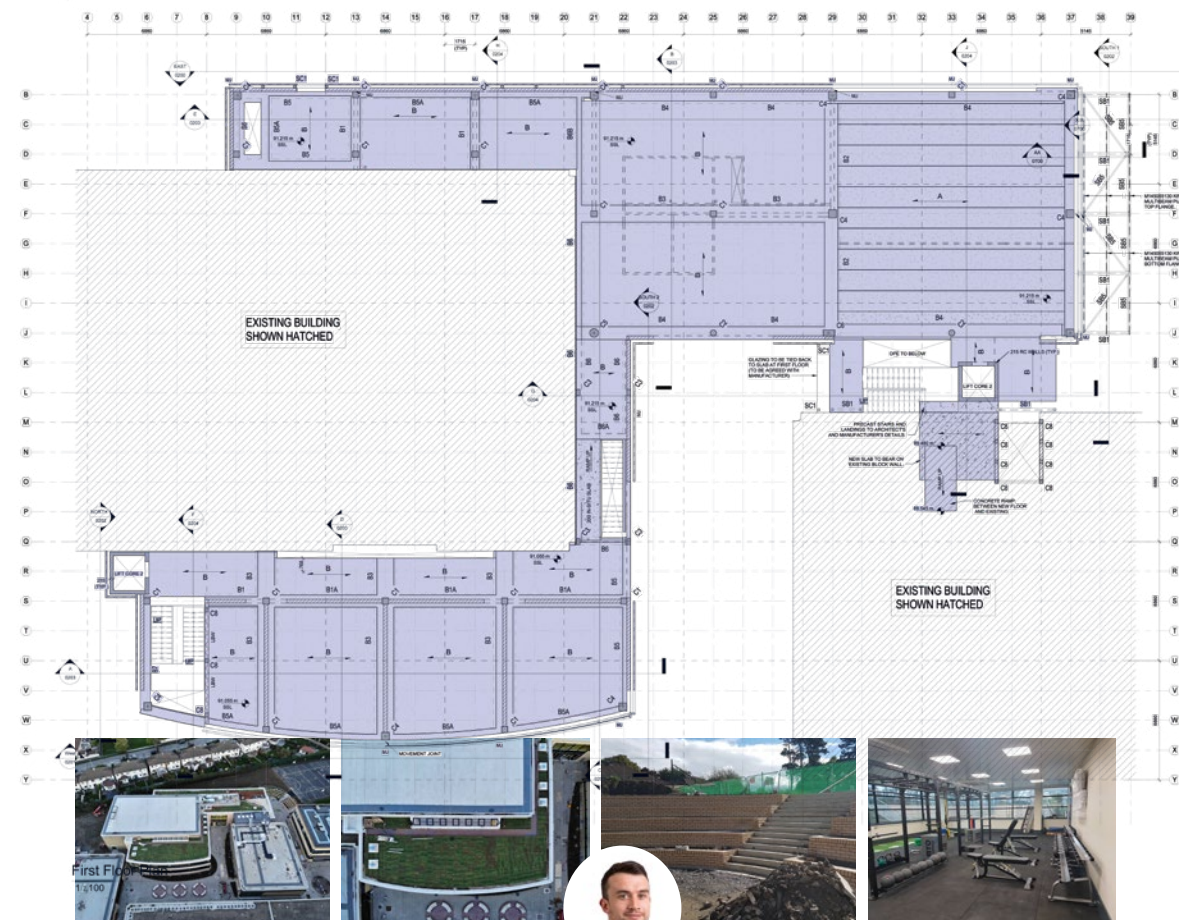
Trinity College Dublin's world-famous Long Room is currently undergoing a redevelopment design, with a 'single point' design team that includes ROD, Heneghan Peng, Lotts, FLN, WH Stephens, ARUP and OLM. At nearly 65m in length, the Long Room is the main chamber of Trinity's Old Library. It is filled with 200,000 of the library's oldest books and a vast collection of treasures, including marble busts of the great philosophers and writers of the western world. It attracts over one million visitors every year.

The redevelopment plan is designed to safeguard the Old Library structure and to conserve its precious collections for future generations. To achieve these objectives, significant air handling will need to be provided and close liaison between the structure and mechanical air supply and

extraction ductwork will need to be sympathetically and carefully accommodated within the existing structure. Suitable fire mitigation for both the building and its valuable collection are another key challenge for the design team.

The proposed scheme seeks to accommodate large quantities of mechanical plant and services in an underground plantroom immediately south of the Old Library building. The proposed lower level will provide a new visitor entrance to the Old Library building through the existing Podium building. It will be necessary to extend the East Pavilion to the Old Library building below ground level to provide the required pedestrian linkage.

It is expected that a planning application will be submitted to Dublin City Council in Q1 2020.



Article by Stephen Maher

## Wesley College Sports and Classroom Extension opens

In October 2015, the Board of Governors of Wesley College Dublin engaged ROD for a significant sports and classroom extension project, which included refurbishment works to its existing 3150m<sup>2</sup> sports hall and gymnasium. The new build 'wraps around' two existing buildings, presenting challenges for interface detailing.

ROD provided civil, structural and traffic engineering services in addition to undertaking the role of project supervisor design process (PSDP). ROD's design partners were McHugh O'Cofaigh Architects, Seamus Monaghan & Partners (QS) and Johnston Reid & Associates (M&E).

The adopted structural solution comprised a combination of reinforced concrete (RC) frame and precast slabs. This combination of RC 'boot' beams with masonry infill panels will facilitate flexibility in the use of the new space, which is essential for the college. The works included various Sustainable urban Drainage systems (SuDs) measures such

as green roof construction, which contributed in achieving some of the objectives of Dún Laoghaire Rathdown County Council's Green Infrastructure strategy. Other structural interventions included modifying the existing long span roof structure of the gymnasium to accommodate M&E upgrade works. The introduction of the new extension required the existing construction to be reclassified as a 'fire boundary condition' so the fire resistance of the existing gymnasium roof steelwork framing had to be upgraded by intumescent coating.

The classroom extension, music room, sports hall and gymnasium refurbishment and extension were designed with the constraint that the campus would remain live throughout the construction phase. ROD successfully delivered the new facilities with no interruption to day-to-day college activities within the tight programme. The building opened in January 2019.





Article by Stephen Maher

# ROD creates case study for UCD's 5<sup>th</sup> Year engineering students

For the fifth consecutive year, UCD School of Engineering invited ROD's buildings team to create a case study for its 5<sup>th</sup> year engineering students. This year, our team was looking for structural engineering solutions for the substructure and superstructure of a large industrial building. Challenges included:

- dealing with a localised area of poor ground;
- identifying the vertical load paths;
- managing overall building lateral stability;
- sketching key interfaces and member end connections;
- identifying value engineering proposals.

The students were split into eight groups of four, and each group was asked to present its proposal for feedback and critique. ROD's Eamonn McElduff and Stephen Maher subsequently presented ROD's suggested solution, explaining the reasoning behind the structural concepts adopted. The students were then given the opportunity to counter the ROD approach, which provided an entertaining conclusion to the event.



Pictured (L-R): Stephen Maher (ROD), John Ward (John Ward Construction), Clare Noone (Delahunty and Harley Architects), Gavin McNamara (ROD).

Article by Stephen Maher

# ROD renews its links with Naas supermarket site

Dunnes Stores has opened a new supermarket in Naas town centre. ROD provided civil, structural and traffic engineering services for the scheme, as well as undertaking the role of project supervisor design process (PSDP) for the works. The new supermarket has a floor area of 2750m<sup>2</sup> and its state-of-the-art food hall features some of Ireland's leading artisan food brands. ROD was delighted to support Dunnes Stores on this project, with which we already had a history. ROD's links with the site extend back to 2000 when it was owned by the former Superquinn Group. ROD provided civil and structural engineering support services to Superquinn for many years, including works at its Naas, Blanchardstown,

Finglas, Carlow and Swords stores.

Extensive demolition works were specified by ROD, with considered sequencing to retain the original primary structure. A new mezzanine level was added to the existing structure to provide office space for staff. A large steelwork roof platform was also added to support air handling and chiller equipment. These additions necessitated strengthening of the original steelwork structure.

ROD's design partner on the scheme was Delahunty & Harley Architects. Blessington-based John Ward Construction was the main contractor.





Article by Andrew Thomson

## TII's motorway operations control centre expansion completed

The expansion of the M50 Dublin Tunnel control building to accommodate a new Motorway Operations Control Centre (MOCC) reached substantial completion in December 2019. The expanded building will house both motorway and tunnel control operations within a single room for the first time and will support TII in providing a more integrated road management service. This marked another significant milestone under Transport Infrastructure Ireland's (TII) larger enhancing Motorway Operation Services (eMOS) framework, for which ROD-AECOM is delivering consultancy services. Further contracts provide for a new national motorway traffic management system and the deployment of overhead electronic signage on the M50 to support the management of traffic flow, while enhancing road safety for road users.

A state-of-the-art video wall control system located to the front of the control room will display real-time feeds from the motorway CCTV camera network. Control centre

operators will be able to react to events as they occur on the network, informing road users of driving conditions on the road network, while co-ordinating activities with emergency responders to safely clear incidents from the road. The expansion also provides TII with a modernised server room, additional office space, meeting rooms and a dedicated incident management room to meet the demands of the enhanced service capability.

ROD-AECOM has worked closely with TII and the operator, Egis Road and Tunnel Operation Ireland (ERTO), to manage the project with minimal disruption to current operations during construction. John Paul Construction is the main contractor for the extension. With phase one of the project now complete, ERT0 will undertake a phased move to the new facility while keeping the original control room running in parallel for a period. Refurbishment works to the original structure will commence in early 2020, after the move to the new facility has been completed.



Article by Eamonn Mc Elduff

## Kerry Sports Academy officially opened at IT Tralee

The Institute of Technology, Tralee welcomed an Tánaiste and Minister for Foreign Affairs and Trade, Simon Coveney TD, to officially open the €19 million Kerry Sports Academy (KSA) in May. ROD provided structural engineering design services for the facility, which is one of the largest sports capital projects ever to have been undertaken in County Kerry.

The 8,400m<sup>2</sup> facility houses:

- the Institute's health and leisure programmes;
- the National Centre for Adapted Physical Activity operated by Cara;
- the UNESCO Chair in Inclusive Physical Education, Sports Fitness and Recreation;
- Kerry GAA Centre of Excellence; and
- Comhaltas Ceoltoiri Éireann's traditional music headquarters.

The building frame involved a variety of off-site structural solutions including precast prestressed 'Double-T' floor and roof units of varying depths providing clear spans of up to 24m. A combination of precast hollowcore units and wideslab concrete units were adopted for more modest spans and provided quick safe elevated spaces for follow-on trades. The decision to adopt prestressed concrete to provide clear long spans was made early in the design process to address vibration generated by floor and dance

studios. It also allowed the facilitation of music usage to one area of the building by modification of structural floor levels to accommodate acoustic layering. The use of prestressed concrete also played a part in minimising the building height and overall costs.

For the main gymnasium area, the double height 30m x 60m clear space was achieved using prefabricated structural steelwork trusses made up using members made from square hollow sections. Co-ordination with the Contractor, Eamon Costello (Kerry) Ltd, on the location of truss site-splicing resulted in steelwork assemblies that could be transported to the rural site at IT Tralee's North Campus at Dromtacker with no difficulties. The curved top boom achieved the architects design intent for the building. Similar curved roof profiles to the Adapted Physical Activity area were achieved using cellular steelwork beams spanning up to 16m.

ROD's fellow design team members included MRG in Tralee (Civil), JODA (M&E), NMA Architects and Willis Risk Management (PSDP).







Article by Laura Fernandez

# National Ambulance Service Ardee Ambulance Centre

ROD is providing civil & structural engineering design services for a new Ambulance Centre in the parkland surroundings of St. Joseph's Hospital, Ardee, Co. Louth. Ardee Ambulance Centre will provide pre-hospital emergency services to Counties Louth & Meath. It will also support the National Ambulance Service (NAS) response to any major emergency. Occasionally, depending on demand, this station contributes to the NAS ability to meet service obligations in areas such as Cavan, Monaghan & Dublin. The station will also provide a support location for Community First responder schemes. The proposed ambulance centre will be accommodated in a single storey 500m<sup>2</sup> building, with covered parking for emergency vehicles. The development also includes a new entrance off Golf Links Road at the north end of

Ardee Town. The existing access road will be upgraded to a 2-way road with shared pedestrian/cycleway path and associated site development works. In consultation with HSE Estates, the NAS is currently developing a National Estates Strategy which will underpin new models of service delivery. In this regard, the proposed development in Ardee is consistent with and supportive of both the proposed Community Paramedic Station and First Response Point models of service delivery. The Ambulance Centre is currently at Planning stage. ROD has commenced detailed design with a view to going to tender in 2020. ROD's design team partners include IN2 (M&E), Moloney O'Beirne Architects, and McGahon Surveyors (QS).



Pictured at the parchment presentation in our head office in Sandyford were (L-R): Gillian Bailey, CPD committee, Clare Valente, CPD committee, Aidan O'Flaherty, Engineers Ireland, Ed Warren, CPD manager, Elisa Longo, CPD committee and Marc Jones, director at ROD.



Article by Edward Warren

ROD's status as an Engineers Ireland Continuing Professional Development (CPD) Accredited Employer has been extended for the maximum reaccreditation period of three years. The Engineers Ireland CPD Accredited Employer standard is recognised as the national benchmark for organisations across all sectors of engineering, and recognises employers who adopt and commit to best practices in their choice of learning and development initiatives. Benchmarking our CPD efforts against the rigorous standard set by Engineers Ireland's CPD Accredited Employer programme is important, not just in terms of helping us attract, retain and develop our people across all areas of the business, but also to achieving our strategic business objectives and preparing us for future challenges. In the last 12 months, our team at ROD has grown to 190, and we have opened new offices in Santry and Leeds. Against this background of expansion and development, investment in the continued development of our CPD strategy has become more important than ever before.

*"I wish to congratulate ROD on its commitment to the continuing professional development of its people and to setting high standards in support of lifelong learning. ROD's CPD committee submitted extensive evidence of robust CPD policies and processes and, when audited, they were found to have satisfied all our criteria at either 'advanced' or 'transformational' level."*



Aidan O'Flaherty  
Engineers Ireland CPD  
Associate Director



# ROD-IS News Update



Article by Mark Tucker

## GoSafeRail

The H2020-funded project, GoSAFE Rail, has been successfully completed by ROD-IS and our partners. The three-year research project focused on the development of a decision support tool for global safety of railway infrastructure. The final project meeting was held



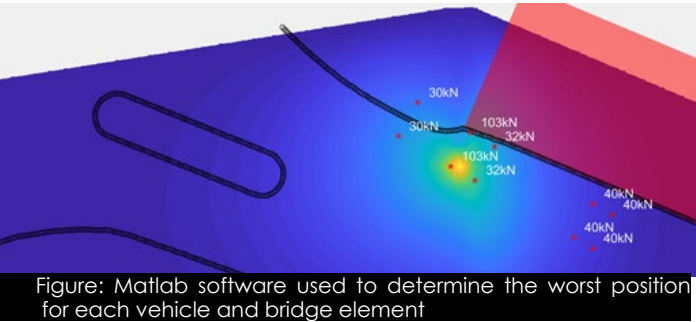
at the offices of Gavin Doherty Geosolutions in Dublin, with ROD-IS Research Engineer, Lorcan Connolly, presenting the most recent work on the case study application of the global risk assessment approach.

The case study focused on the Boyne Viaduct, which had previously been assessed probabilistically and instrumented with structural health monitoring (SHM) by ROD-IS. The consequences of various failures were quantified using a combination of stakeholder input and life-cycle costing. The delay consequences were modelled by traffic simulation experts within the GoSAFE Rail consortium. The results showed that, although the failure probabilities were low for the structure, the application of a semi-permanent remote monitoring system to provide failure warning could be justified from the perspective of risk and cost optimisation.

As part of the case study, a drone survey was carried out on the Boyne Viaduct to obtain 3D point cloud data and investigate the possibility of feeding continuous data to the risk assessment.



Figure: Point cloud data and inspection points during a drone survey of the Boyne Viaduct



**Navigation Street Bridge** in Birmingham is a 1960's bridge consisting of reinforced concrete slabs, pre-tensioned and post-tensioned concrete and concrete-encased-steel beams. A series of assessments conducted on the structure between 2004 and 2013 indicated the bridge was in potential need of rehabilitation, with various elements having less than 40t assessment live load rating.

In 2015, ROD-IS was commissioned to review the past assessments on the bridge and to investigate the suitability of performing a probabilistic analysis, which might achieve a higher load rating for the structure. Our researchers advised that, by making several refinements to the previous assessments, the bridge could be shown to have a 40t live load rating, without the need for a probabilistic assessment. For example, based on a review of the underlying load model and its application to the bridge in question, departure from standard was granted to reduce the dynamic amplification factor defined in Annex D loading from BD 21/01 from 1.8 to 1.2.

The next phase of the assessment was carried out between May and November 2019, with ROD-IS retained as Category 3 checkers. We confirmed the earlier hypothesis that the bridge could be shown to achieve a 40t live load rating by carrying out a full assessment to the Design Manual for Roads and Bridges. As part of the assessment, we extracted influence surfaces from a grillage model to MATLAB, allowing live loading to be run over the complex lane arrangement of the structure. Rather than assuming vehicles to be parallel with the kerb line, the coding platform allowed vehicle load models to be rotated 360 degrees within the carriageway.



## Conferences

ROD-IS General Manager **Mark Tucker** delivered a presentation on the DIRIZON project at the ITS Ireland Conference in Enfield, Co. Meath in November 2019. As part of our activities on the CEDR funded DIRIZON project, ROD-IS recently completed a report entitled "National Road Authorities and Digitalisation". This report provides a comprehensive insight into selected national road authorities current & future levels of digitalisation and preparedness for automated driving. The report also reviewed the policies, impacts, barriers and risks in play which affect the aim of achieving full digitilisation of & automated driving preparedness on the road network. The report is available to download from the project website. [www.dirizon-cedr.com](http://www.dirizon-cedr.com)

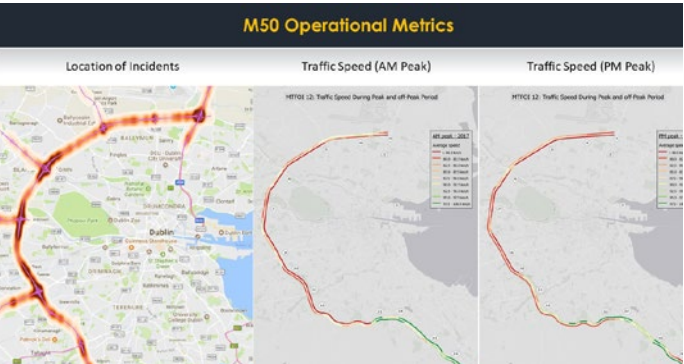
**Lorcan Connolly** delivered a presentation at the recent Railway Diagnostics and Monitoring Conference in Vienna.



Lorcan Connolly recently presenting at the Railway Diagnostics and Monitoring Conference in Vienna

The conference aimed to provide answers to common queries on monitoring systems, such as describing the latest developments; what future prospects can be expected; and what has been the experience of users so far. Lorcan presented the quantitative risk assessment approach developed in the GoSAFE Rail project, demonstrating how monitoring data can be considered as part of a global safety assessment approach.

ROD-IS Research Engineer, **Robert Corbally**, delivered presentations at both the Transport Infrastructure Ireland (TII) Winter Service Conference in Athlone on 1<sup>st</sup> October 2019 and the European Transport Conference in Dublin Castle on 9<sup>th</sup> October 2019. Robert's presentations focused on the ongoing developments within TII's enhancing Motorway Operation Services (eMOS) framework, and highlighted the benefits ROD-IS' work in analysing traffic data was bringing. These benefits include providing a detailed understanding of traffic patterns on the M50, and how weather conditions and other external factors affect traffic conditions. This knowledge will be used to develop appropriate operational response strategies for the M50.







Article by Kate Moore

# Protecting and enhancing the River Dodder Corridor’s Ecosystem

The River Dodder is a highly significant ecological corridor through Dublin's southern suburbs, providing refuge and commuting habitat to countless species, including various protected species such as otter, badger and kingfisher. The river and its surrounds form the Dodder River Valley proposed Natural Heritage Area, highlighting its importance for wildlife. It supports several bat species and is particularly important for Daubenton’s Bat, a species that forages along waterways and is highly sensitive to lighting. Several rare plants protected under the Flora Protection Order have also been recorded along the river.

ROD is currently engaged in several projects along the river, affording us a wonderful opportunity to develop and strengthen its urban ecosystem.

## Dodder Greenway

The Dodder Greenway, a proposed shared cycling and walking route along the River Dodder, is being advanced in sections by the National Transport Authority (NTA), in

conjunction with South Dublin County Council (SDCC), Dún Laoghaire-Rathdown County Council (DLRCC) and Dublin City Council (DCC).

ROD previously prepared a Feasibility Study, EIA Screening, AA Screening and an Ecological Impact Assessment for the scheme. A Construction Management Plan that provides steps for reducing potential environmental impacts arising from the construction of the greenway and an Invasive Species Management Plan to control and combat the further spread of invasive alien plant species threatening native plant diversity along the river have also been produced.

ROD ecologists have proposed several impact avoidance measures on the scheme, including limited construction depths for pavements and the provision of bat-friendly lighting. Enhancement measures aimed at improving green linear infrastructure along the route, such as augmented native planting and the implementation of mowing regimes, have also been proposed.

Having secured planning for the South Dublin section in October 2017, the local authority appointed ROD to undertake a pre-construction ecology survey of the route. ROD is advancing the environmental assessment of the DCC section concurrently. It will be subject to Part VIII planning approval. ROD is also engaged to provide construction stage monitoring services for the South Dublin section of the route, which it is hoped will start construction in early 2020.

## Multi-sports facility at Dodder Valley Park

SDCC has engaged ROD to provide ecological services for a multi-sports facility at Dodder Valley Park in Firhouse, Dublin 24. The project was granted planning permission in 2017. It includes development of:

- an eight-lane grass running track;
- grass soccer pitch;
- bmx track;
- shared changing room/club house facilities;
- extension of the existing pathway system; and
- a signed nature trail.

ROD has been tasked with preparing a Habitat Management Plan to safeguard species-rich grassland within the park and will also act as Ecological Clerk of Works on the first phase of the project, overseeing construction of the running track and soccer pitch.

## Dodder Public Transportation Opening Bridge

ROD is assisting DCC with the planning and design of the Dodder Public Transportation Opening Bridge at the confluence of the Rivers Dodder and Liffey in Dublin's docklands. As part of the Environmental Impact Assessment (EIA) for the project, ROD's ecologists have undertaken a suite of surveys, including bat activity surveys and bird surveys, at the proposed bridge location. These surveys will inform the bridge design and any necessary mitigation measures required to protect aquatic and avian fauna in the River Dodder, River Liffey and the wider Dublin Bay area.

Image Courtesy of Shay Connolly







Article by Gemma Rothwell

ROD is pleased to report that Kildare County Council has approved the Part VIII Planning application for the Maynooth Eastern Ring Road in July 2019. The ring road will provide a new transport link to the east of Maynooth town. It will include 1.5km of link road and a new bridge over the Royal Canal and the Dublin-Sligo rail line.

The new road will create a connection from the R148 Old Dublin Road and the R157 to the north, to the R405 Celbridge Road to the south, providing means of bypassing the congested centre of Maynooth. It will also facilitate the development of zoned lands to the east of Maynooth and provide improved connectivity for schools located on the Celbridge Road and residential areas in the vicinity. Footpaths and cycleways will be provided along the new road, and these will connect to the Royal Canal towpath.

#### ROD's role in the project

ROD was appointed by the council to provide engineering and environmental services for the project in 2015. In undertaking the Route Selection for the proposed

development, our team considered all environmental sensitivities, including existing residential properties, noise and visual impacts, ecological impacts, and any potential for direct and indirect impacts on the adjacent Carton Demesne.

The traffic modelling for the scheme has indicated strong demand for the road development. The anticipated traffic volumes posed a challenge in terms of potential noise impacts on established developments. Following a comprehensive assessment of predicted noise levels, a mitigation strategy was devised to minimise these impacts within the already developed urban environment.

After completing the Route Selection stage, we prepared the Environmental Impact Assessment and Appropriate Assessment screening reports, which assisted the council in making its determination that neither an Environmental Impact Assessment Report nor a Stage 2 Natura Impact Statement were required. The project team is now advancing the detailed design of the scheme.



Article by Barry Corrigan

## River Suir Sustainable Transport Bridge

ROD was delighted to receive a clean planning approval from An Bord Pleanála for the proposed River Suir Sustainable Transport Bridge in Waterford. The 200m five-span bridge will cross the River Suir Special Area of Conservation (SAC), and was approved without requiring an Oral Hearing, a notable achievement in the ecologically sensitive tidal section of the River Suir.

The bridge will connect Waterford City Centre to the North Quays Strategic Development Zone (SDZ) and onward to the proposed new train station and transport interchange. It is designed to carry pedestrians, cyclists and an electric shuttle bus. The bridge will incorporate an opening centre span to allow the passage of river traffic.

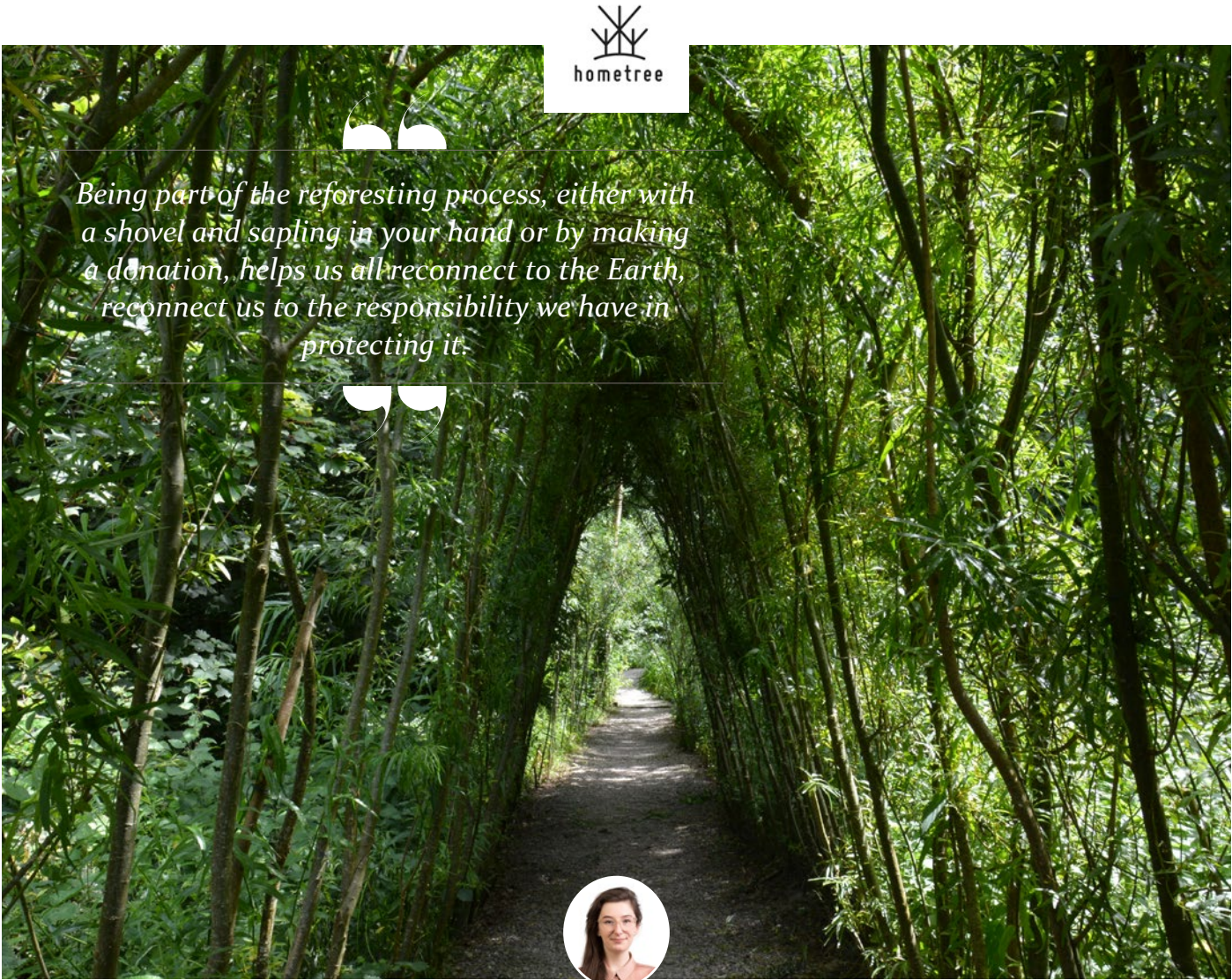
The Environmental Assessment team led by Barry Corrigan and Christine Murphy worked closely with the project ecologists (Owen O'Keefe and Kate Moore) and the project engineers to ensure that all potentially adverse effects on the integrity of the SAC were identified, assessed and managed, either through design or mitigation. The Twaité Shad fish, a qualifying interest of the Natura 2000 site, required significant protection. During consultations with the National Parks and Wildlife Service and Inland Fisheries Ireland, it was identified as a species that not much

was known about and the onus was on the project team to identify through research the potential effects of noise and vibration of piling, siltation, and other construction impacts. Through a prescriptive suite of restrictions surrounding the timing and frequency of piling in and adjacent to the river, it was proven beyond reasonable scientific doubt that there would not be adverse effects on the species.

An Bord Pleanála issued a Request for Additional Information in relation to the requirement for the vessel collision protection system. Project Director Tony Dempsey prepared a comprehensive response not just justifying the requirement for a vessel collision protection system but also demonstrating that the design proposed was developed to minimise impacts on scour and sedimentation, thereby minimising impacts on the SAC.

This decision along with the approval of the Part 8 Planning application for the Transport Hub by Waterford Metropolitan Council generate significant momentum for the project. We also consider them to be significant achievements for ROD, who are undertaking the planning and design of the project for Waterford City & County Council, and will undertake the role of Employer's Representative and Supervisor during construction and handover in due course.





Being part of the reforestation process, either with a shovel and sapling in your hand or by making a donation, helps us all reconnect to the Earth, reconnect us to the responsibility we have in protecting it.



Article by Lorraine Guerin

# Planting for Ireland: Sustainability Week at ROD

ROD held its annual Sustainability Week in September 2019. To mark the week, our environmental group delivered a series of sustainability-themed talks to the wider staff, and the company pledged to plant 40 native trees in Co. Clare through Irish charity Hometree.

The Hometree charity was established in 2016 by the team of surfers behind Moyhill Community-Supported Agriculture (CSA) Farm, in Leinch, Co. Clare. Its goal is to establish a sustainably managed native woodland on its 67 acre plot, and it promises that the trees planted will never be sold or clear-felled. Trees pledged by individuals and

organisations, such as ROD, are planted on 'tree planting days', when the general public is invited to participate in the process. To date, the charity has planted 14,000 native trees, including oak, willow, holly and mountain ash, and its aim is to plant 60,000 in the coming years.

Ireland has one of the lowest areas of forest cover in the EU. By pledging native trees through reliable organisations like Hometree, businesses and individuals can effect positive environmental impacts, such as carbon sequestration, biodiversity conservation, flood prevention and soil stabilisation.



Article by Lorraine Guerin and Michael Bailey

# A6 Site Visit for ROD's Environmental Team

ROD's environmental team undertook a site visit to the A6 Dungiven to Drumahoe D&B scheme in September 2019. As part of our commission, ROD is providing significant environmental and ecological input during the design and construction phases.

The site visit provided an opportunity for more junior members of the team to observe some of the practical challenges facing earthworks and construction teams in ensuring compliance with detailed construction management plans and sequences. It also allowed the team to see construction stage mitigation and control measures prescribed at planning stage being physically implemented by the contractor. These included mammal underpasses, bat passages, silt fencing, attenuation ponds, otter fencing, and habitat protection areas.

ROD's Project Ecologist, Michael Bailey, led the site visit. Mike was particularly keen to review how silt fences used extensively around earthworks sites protected against the pollution of sensitive and internationally important salmon and trout rivers designated as SACs.

Also of particular interest was a badger sett that has remained active despite extensive earthworks and heavy machinery operating within its close proximity. It highlighted just how adaptable some mammals can be

and demonstrated that, if exclusion zones are correctly implemented, construction projects can be sensitively advanced without impacting such species.

The team got the chance to meet a local resident with a bat maternity roost containing over 700 bats, whose home is located immediately adjacent to the proposed road. The 2011 Environmental Statement proposed the construction of a 'bat bridge' to mitigate the loss of a line of trees near the roost. However, as recent bat research has shown bat bridges to be ineffective, the contractor (under Mike's supervision) is now providing high wooden fencing and tree-planting measures as a more robust means of ensuring the long term viability of the bats' flight corridor across the new A6 route.

As with any site visit, this trip allowed the newer members of our team to gain a far greater understanding of the practicalities of implementing environmental mitigation measures in the real world environment. It also highlighted to them the important role environmental scientists and ecologists play in the planning of environmentally sensitive and sustainable civil engineering projects. This will stand to them when making environmental commitments at planning stage and/or preparing construction environmental management plans in the future.





# ROD's Robert Corbally wins third Sandyford 5K Race



Robert Corbally has won the individual event at the Sandyford 5K Race for a third consecutive year. Corbally battled challenging weather conditions to finish just outside the race record of 15 minutes and 39 seconds, which he set last year. Over 700 runners, including 17 ROD team members, took part in the race, making it the biggest in the event's five-year history. ROD also took silver in the team event, with John Bell, Daniel Coleman, Michael Gombart and Corbally missing out on a first-place finish by only the narrowest of margins – a single point.

'It was great to see an ROD team on the podium for the fourth year running, but even better to see four ROD teams warming up at the starting line this year,' said Corbally. Asked about the chances of taking home both the individual and team gold in 2020, he said:

You just have to take it one year at a time. Hopefully, come next year, we will be in the mix.



## Meet the New Recruits..



### Luca Giarrusso

Luca joined our bridges team as a structural engineer in July 2019. He is a graduate of the Università degli Studi di Catania where he gained a master's degree in structural and geotechnical engineering. Before joining ROD, Luca spent over two years designing buildings with an engineering consultancy in Dublin. He loves to play sport, and is passionate about cars and technology.



### Pagkratios Chitas

Pagkratios joined ROD as a geotechnical engineer in August 2019. He holds an MSc in Civil Engineering & Construction Management from Heriot-Watt University in Edinburgh and an MSc in Geotechnical Engineering from the University of Dundee. Pagkratios has over five years' experience in the construction and offshore energy sectors and has been involved in a wide range of commercial and residential developments in the UK and Greece.



### Alejandra Pena

Alejandra joined ROD as an Assistant Resident Engineer last July. She has over four years' experience working as a project/site engineer in New Zealand and Ireland. A graduate of IT Sligo, Alejandra holds a BSc (honours) in Construction Project Management. She enjoys travel and horse racing and is particularly fond of seafood with a glass of Albarino wine from Galicia.



### Finbar Bannon

Finbar rejoined ROD last September as Resident Engineer on the N5 Ballaghaderreen to Scramoge project. He previously worked with us on the N9 Phase 3 and the N52 Carrick Bridge to Clonfad road projects. Finbar has 14 years' experience in the construction industry, working for both contractors and Employer's Representatives on major infrastructure projects. His interests include Gaelic football and golf.



### Gillian Bailey

Gillian joined ROD as a HR administrator last summer. She holds a BA in Business Studies and is also CIPD qualified. In her free time, Gillian enjoys going to the gym and playing tennis.



### Marian Blaj

Marian joined our buildings team as a structural modeller last May. He has four years' experience working on projects in France, Belgium and the Netherlands. Marian is a graduate of Technical University of Iași in Romania where he earned a master's degree in structural engineering. He enjoys singing, travelling and cooking.



### Luke Windsor

Luke joined our bridges team as a CAD technician last August. He is currently undertaking a part-time course in civil engineering at Technological University Dublin (TUD). His hobbies include playing guitar and going to the gym.



### Frank Ngenzi

Frank joined ROD last August. He is a member of the Employer's Representative's team on the N56 Drumbeigh to Inver Road scheme. Prior to joining ROD, Frank worked on motorway schemes and residential and commercial building projects. He is fluent in French and enjoys going to the gym, reading history books and following world affairs.



### Dmitrij Sudarikov

Dmitrij joined ROD as a trainee technician last August. He is currently undertaking a part-time course in civil engineering at Technological University Dublin (TUD). His hobbies include cycling and going to the gym.



### Barry Doherty

Barry joined ROD last August. He is a member of the Employer's Representative team on the N56 Drumbeigh to Inver Road scheme. Prior to joining ROD, Barry worked on a broad range of projects in Ireland, Western Australia and the UK, including iron ore handling facilities, onshore gas terminals, bridges, weirs, windfarms and marine port infrastructure. He enjoys GAA, fishing and travelling.



### Shane Devlin

Shane joined ROD as a trainee technician last September. He is currently undertaking a part-time course in civil engineering at Technological University Dublin (TUD). His hobbies include playing football and going to the gym.



### Raghav Malhotra

Raghav joined ROD as a graduate engineer last July. He is a graduate of University College Dublin (UCD) where he undertook a bachelor's degree in chemical engineering. He is currently working on the enhancing Motorway Operation Services (eMOS) project with the Intelligent Transport Systems team. In his free time, Raghav enjoys travelling and watching sports.



**Enrica Calandro**

Enrica joined ROD as a graduate engineer last September. She is currently working with our geotechnical team and has been involved in several projects, including the A6 Randalstown to Castledawson Dualling scheme and the Great Yarmouth Third River Crossing. She is a graduate of the University of Messina where she completed a master's degree in civil engineering. She loves travelling and playing volleyball.

**Sebastiano Runci**

Sebastiano joined ROD as graduate engineer in 2019. He is a graduate of Polytechnic University of Catalonia in Spain where he completed a master's degree in civil engineering. In his free time, Sebastiano enjoys photography, travelling and motorcycles.

**Luca Givonetti**

Luca joined our bridges team as a design engineer last July. A graduate of the Politecnico di Torino, Luca spent the past three years working on infrastructure and building projects in Italy, Germany and Hungary. He is experienced in the design and inspection of bridges, buildings and other structures, and he has strong skills in seismic design. Luca enjoys investing in stocks and the cryptocurrencies market.

**Martin Donegan**

Martin joined our graduate programme last September. He is a graduate of Trinity College Dublin where he studied Civil, Structural & Environmental Engineering. His interests include GAA, motorbikes and farming.

**Kalvin Townsend-Smyth**

Kalvin joined ROD as a graduate ecologist last July. He holds a BSc (honours) degree in Wildlife Biology from the Institute of Technology Tralee. As a student, Kalvin spent his summers working on a sea turtle conservation and research project in Greece. He likes to hike, travel and go on the occasional run.

**Nicholas McCann**

Nicholas undertook a summer placement at ROD in 2018 and joined our graduate programme last September. He holds a bachelor's (honours) degree in structural engineering from Technological University Dublin. Nicholas is a ski instructor with the Ski Club of Ireland, and he also enjoys running and travelling.

**Manoj Antony**

Manoj joined our transportation team as a CAD technician last May. He holds a diploma in civil engineering from Thiagarajar Polytechnic in India. Prior to joining ROD, Manoj worked on infrastructure projects in Saudi Arabia, the United Arab Emirates and India. He is currently working on the A6 Dungiven to Drumahoe dualling scheme. Manoj's hobbies include playing cricket and badminton and listening to classical music.

**Elena San Juan Grande**

Elena joined our water team last October. She holds a MEng in chemical engineering and has 11 years' experience in the water industry. Elena has worked as a process engineer and project manager in Europe, Latin America and Australia, where she embraced the concept of integrated water management. Elena loves the great outdoors, hill walking, scuba diving and foraging in particular. She is also interested in mental health and practices both yoga and meditation.

**Colette Holt**

Colette joined ROD last October as manager of our new UK office in Otley, Leeds. Colette has over 20 years' experience in administration and holds a Higher National Diploma in Business and Finance. She enjoys travelling, baking, reading, spending time with her family and going to live concerts.

**Maria McCormack**

Maria joined our transportation team as a senior civil engineering technician last June. She is experienced in producing infrastructure drawings for retail and residential developments. Maria holds a diploma in civil engineering from Technology University Dublin. She enjoys attending music festivals and playing both tag rugby and piano.

**Giacomo Zaccone**

Giacomo joined ROD as graduate engineer last August. A graduate of the Politecnico di Torino, Giacomo spent the past year and a half working as a structural engineer on the Grand Ethiopian Renaissance Dam. He loves music, running, playing football and exploring new countries and cultures.

**Nigel Croft**

New Zealand native, Nigel Croft, spent 25 years working on roads and oil projects in New Zealand, Western Samoa, Papua New Guinea, Belize and Kazakhstan before joining ROD last July. Since then, he has been assisting with the supervision of the Royal Canal Cycleway project. Nigel enjoys yacht racing and thinking about and drinking wine. Rugby has been put out to pasture.

**Angela Renni**

Angela joined ROD as a graduate engineer last September and is currently working with our buildings team. She is a graduate of the University of Salento in Italy where she gained a master's degree in civil engineering. While undertaking her master's thesis, Angela spent six months working with the chemicals group, BASF, where she was involved in the development of innovative high-performance fibre concrete. In her spare time, Angela enjoys travelling, reading and listening to live music.

**Walter Malavolta**

Walter joined ROD as a graduate engineer last September. He is a graduate of the University of Rome Tor Vergata where he gained a master's degree in building engineering and construction management. Prior to joining ROD, Walter worked as a site engineer and tender assistant for international works. In his spare time, he likes travel, meeting friends and playing football.

**Sean Kennedy**

Sean joined ROD in 2019, after spending six years working in London on a broad range of projects, including roads, cycleways, buildings and infrastructure. He graduated from Technological University Dublin with a bachelor's (honours) degree in civil engineering. Sean enjoys music, football and travelling.

**Arsalan Sayed**

Arsalan joined ROD as a graduate engineer last October. He is based in our Otley office. Arsalan is currently working with our bridges team on the Waterford North Quays project. He is a graduate of the University of Leeds where he gained a master's degree in structural engineering. In his spare time, Arsalan enjoys playing football, cricket, badminton and table tennis. He also likes watching movies and travelling to different countries.

**Alex Gilston**

Alex joined ROD as a senior technician last September. He is based in our Otley office. Alex has over 30 years' experience working for consultancies in both the transportation and water industries. He is currently working on the Waterford North Quays project scheme, delivering rebar drawings and GA support. He holds a bachelor's degree in civil and structural engineering and is an engineering technician member of the Institution of Civil Engineers (ICE). A keen sportsman, Alex has played both professional cricket and national league field hockey. His greatest sporting achievement was playing in the National Village Cricket Knockout final at Lords.

**Liam Kilcullen**

Following many years working on contract in design and site roles throughout Ireland, Liam rejoined our bridges team as a senior engineer last August. Liam's interests include travel, music and the great outdoors.

**Shane McGovern**

Shane joined our IT team as a senior IT engineer last August. He has three years' industry experience and has worked for one of Ireland's biggest Microsoft service providers. Shane is originally from Balbriggan but has recently moved to Sandford. His hobbies include playing guitar, photography, hiking and gaming.

# ROD celebrates the achievements of its graduate engineers



ROD hosted a special dinner in Dublin in October to recognise ten of our young engineers who successfully completed their graduate programme.

Our young engineers now move forward to our Pathway to Chartership programme, which is designed to support them in the next stage of their professional development – becoming chartered.

*It is a privilege to play a part in the development of these incredibly talented young men and women. Over the past two years, I've watched them grow in confidence as they learned, not just engineering skills, but also how to work in multidisciplinary teams and grapple with the practical challenges of working with clients, partners and contractors. I am looking forward to seeing what they contribute to the engineering community in the years ahead*



**Harry Meighan**  
Managing Director, ROD



# 5 minutes with.. ..John Collins

*Principal Engineer, John Collins, CEng MICE MWeldI, joined ROD in August 2019. John leads our UK bridges team and is based in our new office in Leeds.*

*He provides some insights into his previous work, shares his thoughts on the importance of continuing professional development and describes his active family life in Yorkshire.*



## Describe your first impressions of ROD?

I moved to ROD from a large multinational, and I am impressed with the nimbleness that a small, director-owned company affords and the general appetite for ideas within the company. Jim Thorpe, who is leading the UK office in Otley, has made me most welcome, as did the team in Dublin when I visited in September.

## What have been your career highlights to date?

Between 2011 and 2015, I was part of a small group responsible for designing and installing a replacement bearing arrangement for the main span A-frame rockers at the Humber Bridge in England. Working at the interface between structural and mechanical engineering was challenging.

The knowledge I gained during the A-frames work proved invaluable when, in December 2015, an articulation element providing a similar function, a truss end link, fractured at the Forth Road Bridge in Scotland. While the bridge was closed to traffic for emergency repairs, I helped to develop a temporary repair, oversaw its installation and conducted load testing, prior to its reopening just three weeks later.

In 2016, I was awarded the Royal Academy of Engineering (RAEng) Engineers Trust Young Engineer of the Year title, in recognition of my work on these two iconic suspension bridges.

## What motivates you?

Like many engineers, I am driven by the need to find solutions to problems. As a civil engineer, I think finding high quality solutions can directly improve the quality of people's lives. Knowing that our work is useful and can aid sustainable development is a great motivator for me.

## Where do you get new ideas from?

Ideas come to me when I'm outside and on my feet - rarely when I'm at my desk or in meetings! That is one of the reasons I always take a lunchtime walk. I also enjoy reading technical publications covering various engineering disciplines and visiting and learning about existing bridges.

## What bridge opportunities exist for ROD in the UK?

The Northern Spire Bridge in Sunderland was a landmark project for ROD, and has significantly raised our profile in the UK. By working together with our existing contractor clients and building on those relationships, we can repeat that project's success, and, over time, make a real difference to the UK's transport network.

The bridge stock in the UK is quite different to in Ireland.

Our railway network is extensive and consists of mainly Victorian structures. Our motorway network is predominantly decades older than Ireland's. This means that the UK's bridge stock will require considerable preventative maintenance over the coming decades. ROD's technical, analytical but practical approach to bridge engineering, coupled with our experience working on Ireland's Eirspan bridge management system, means ROD is well positioned to support UK bridge owners in keeping old and heavily used bridges in operation whilst limiting the impact on the travelling public during strengthening and repair works.

## What should engineers do more of?

The best engineers I've worked with have been lateral thinkers, with an uncanny ability to take a few simple ideas and apply them in a pragmatic way. This approach can be fostered by spending more time thinking; planning; honing a design; sketching; and calculating on the back-of-an-envelope - well before opening a code of practice, building a finite element model or producing deliverables. Continually and meaningfully developing an engineer's technical skills and knowledge is vital. Turning specialist knowledge into qualifications and using it in new roles is a very effective way of raising an engineer's professional profile. In the past five years, for example, I have learned a great deal about welding and steel fabrication by undertaking a course at my local college and gaining a basic welding qualification. In addition to providing technical input to fabrication specifications, I have acted as vice-chair of the Steel Construction Certification Scheme and become a member of the Welding Institute (MWeldI).

Civil engineers are involved in a lot of interesting work, but we could be better at telling others about what we do, not least other engineers! Sharing knowledge in a formal manner helps to advance our discipline, and that knowledge can become an important part of the historical record. I've written several technical papers, and I am on the editorial advisory panel of ICE Proceedings Bridge Engineering. I would encourage others to share their learning in the same way.

## What are you interested in outside of work?

My wife and I have a young family, and we've found the Yorkshire countryside to be a great place to bring up children. My daughter has autism, learning, mobility and communication difficulties. This has a profound impact on our day-to-day life, but certainly makes us a very tight knit and supportive family unit.

I play underwater hockey (Octopush), which is a great way to unwind. When you are holding your breath, kicking hard to chase after a puck at the bottom of a swimming pool,

it's hard to think about much else than the game at hand! I am also a fresh air fiend and enjoy walking, cycling, running and camping, which helpfully work well with another passion of mine - ornithology.

I am an avid reader and enjoy both fiction and nonfiction. In fact, since moving to Yorkshire 12 years ago, I've become a Brontë enthusiast. It is a privilege to live so close to Haworth, the home village of the Brontës, and to be able to walk to the moortops of Wuthering Heights from our front door.



Pictured L-R: John Collins and Jim Thorpe





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