



Geotechnical

Introduction

Founded in 1974, Roughan & O'Donovan (ROD) have grown to employ over 150 staff and are today recognised as one of the leading Civil Engineering Consultancies in Ireland. Our areas of expertise include transportation, bridges, building structures, environmental and wind energy and we are involved with projects with values up to €3 billion. With a head office in Dublin we are increasingly active in international markets where our reputation for design excellence and the ability to deliver value in relation to signature bridge structures and major roads projects has led to demand, most notably from major construction companies. Our principal areas of business activity are the design, project management and construction supervision of projects in the following areas:

- ❑ Roads, Traffic and Transportation
- ❑ Bridges Structures
- ❑ Environmental and Water Services
- ❑ Building Structures
- ❑ Rail and Public Transport
- ❑ Project Management and Construction Supervision
- ❑ Geotechnical Services
- ❑ Wind Energy

Geotechnical Services

Roughan & O'Donovan has excellent capabilities in Geology and Geotechnical Engineering and provides a wide range of services both directly for clients and in support of ROD projects. Our team of four specialist staff is led by ROD Associate Fintan Buggy, who has over 30 years experience in Ireland, the UK and USA on a broad range of projects ranging from nuclear submarine ship lift facilities to commercial development, pipelines, dams, bridges and major roads projects. The team provides services including:

- ❑ Desk studies for preliminary evaluation of route corridors and alternative sites;
- ❑ Planning and procurement of preliminary and detailed site investigations;
- ❑ Development of interpretive geologic / hydrogeologic / geotechnical reports;
- ❑ Detailed design of earthworks, foundations and soil improvement.

ROD also offers the following additional geotechnical services:

- ❑ Inspections of existing infrastructure for current in-situ soil, rock and groundwater conditions including locations by rope access (using access specialists);
- ❑ Identification of geotechnical risks and hazards affecting the maintenance and upkeep of road, rail and bridge infrastructure;
- ❑ Reactive geotechnical services including emergency response to events and remedial works to deal with:
- ❑ Undermining or scour due to groundwater movements;
- ❑ Landslides or other instabilities in soil or rock;
- ❑ Alteration of soil or rock by weathering processes;
- ❑ Accidental impact by vehicles;
- ❑ Settlements affecting structural/embankment foundations.

ROD have worked on major road, rail and bridge infrastructure projects across Ireland including the Limerick Tunnel Scheme, M7 / M8 PPP Motorway, N7 Dublin to Naas 4 to 6 lane widening, numerous Rail Projects, and a number of major bridge projects such as the Marlborough Street Bridge in central Dublin and Narrow Water Crossing near Newry.

Recently ROD's Geotechnical team assisted Irish Rail with geotechnical engineering review services to assist in the repair of the 150 year old Malahide Railway Viaduct Bridge north of Dublin following the collapse of a pier due to scour erosion. ROD provided supervision for the SI contract consisting of numerous rotary core and cable percussion boreholes plus geophysics surveys using Electrical Resistivity. Evaluation of new steel pipe piles for foundations to the replacement pier plus minipiles drilled into the other existing masonry piers was performed including both static and dynamic load testing. Seepage and stability analyses were performed for the modified weir under both temporary construction loads and permanent conditions.

The team has also provided geotechnical services for commercial and industrial client's developments, either in support of ROD's Building Structures Group, or directly for clients, and provide construction support as required.

Key Geotechnical Staff



Fintan Buggy

Associate - Geotechnical Services
B.Sc., M.Sc., C.Eng. MICE,

Fintan is Roughan & O'Donovan's senior Geotechnical Engineer responsible for site investigations, geotechnical assessments and design studies. He has 30 years international experience in a wide spectrum of geotechnical engineering roles. He is currently leading Roughan & O'Donovan's design for the geotechnical aspects of the Limerick Tunnel PPP project and various projects for Irish Rail.



Brendan Sadler

Geotechnical Engineer
BSc (Hons)

Brendan has over 10 years experience on a wide range of major roads, bridge structures and environmental engineering schemes in both the UK and Ireland. He has acted as Geotechnical Design Engineer on a number of major Road and Bridge Projects including the Limerick Southern Ring Road Phase II (Limerick Tunnel PPP Scheme), the N5 Westport to Bohola Road Project and the Strabane Foot Bridges. Brendan also has considerable site supervision experience on various ground investigation contract and as Geotechnical Resident Engineer on major road and environmental construction contracts.



Dr Paul Kissane

Geotechnical Engineer
BA BAI PhD MIEI

Dr Kissane is a Geotechnical Engineer with experience on a wide range of Rail, Road and Bridge Projects. Specific projects include the Limerick Southern Ring Road Phase II (Limerick Tunnel PPP Scheme); the M7M8 Portlaoise PPP Motorway; the cross border Narrow Water Bridge; N2 Slane Bypass and studies for the planned reopening of the Navan Railway Line outside of Dublin. Paul also has particular expertise in relation to maintenance of sandstone structures which was the subject of his doctoral thesis.



Eimhear Finnerty

Geotechnical Engineer
B Sc., M Sc.

Eimhear joined ROD in 2008 after completing a research based Masters Degree at UCD, Dublin. She has worked on various projects developing preliminary route selection reports for the Navan Railway line extension and procurement, management; site supervision of a preliminary site investigation for the N4 Carrick-on-Shannon bypass scheme and Geotechnical Interpretive Report for Marlborough Street Public Transport Bridge in Dublin.





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