**ACEI Design Excellence Awards 2019**

**Winner: Structures – Large project category**

Hanley Pepper: One Microsoft Place, Leopardstown, Co Dublin

One Microsoft Place is the New HQ of Microsoft. The design concept of the building was to encompass a journey starting with a harbour and ending on a mountain summit. This iconic five storey building large spans structure over double basement encapsulates structural artistry and construction integration. It facilitates innovation and creativity for the employees of One Microsoft Place.

The innovative structure provides a unique transition from Ground Floor and winds its way up to the 4th Floor (the Summit) where a landscaped terrace provides panoramic views across Dublin Bay and Mountains, achieved by excellent design solutions, elegance in structural detailing and a design with an ethos of sustainability, exceeding the client’s expectations.

The creation of a Central Atrium, which acts as the heart of the design, has been so successful and well received that it is now being replicated in Microsoft’s other projects across the globe, including in Redmond near Seattle USA.

**Winner: Structures – Medium project category**

Barrett Mahony Consulting Engineers: 14 Henrietta Street, Tenement Museum, Dublin 1

The Henrietta Street project involved the extensive refurbishment of a protected structure from a former abandoned building to a Tenement Museum. The key principle of the project was to return and conserve all of the existing building fabric and, where necessary, supplement with structural interventions which were appropriate and sympathetic to the original building.

The project included the construction of a new feature entrance stairs and extensive refurbishment, structural strengthening of an existing rear stairs and floors within the existing floor zones incorporating all of the building services within. A unique feature was the installation of a composite steel plated stair structure with a 50mm waist thickness for the stairs to appear to float within the space.

Conservation works within historic buildings required flexible and fluid design solutions to be concealed within the existing structural zones to retain the historic nature expression within this Tenement Museum building.

**Winner: Structures – Small project category**

TOBIN Consulting Engineers: Aran Sweater Market, Galway

The completion of the Aran Sweater Market project marks an important social, cultural and economic development for the famous Medieval Quarter of Galway. The central and most important component of this project was the design and construction of a two-storey independent frame structure imperative for the retention of the Quay St and Quay Lane facades. The extensive new build also had to ensure the independent element did not impact on the significant conservation considerations.

The structural cluster consisted of five original properties; number 25 Quay St with a Cruck Style timber Oak Roof structure and numbers 2 to 5 on Quay Lane with a King Post timber roof structure. The new independent frame structure supports two new roofs, a new first floor and a new internal staircase with walled sections of Galway’s earliest 13th century De Burgo Stone Castle retained and featured within.

Taking an innovative design approach, the engineers were able to ensure the possible future reversibility of all new adopted structures and new build elements.

**Winner: Innovation category**

Malachy Walsh and Partners: Rossbeigh Cliff Road Bypass, Kerry

Rossbeigh is situated on the southern shore of Dingle Bay with cliff stabilisation and erosion issues occurring over the years. The design required the development of innovative engineering solutions to address and manage the very challenging geotechnical and topographical conditions, traffic management and drainage control issues, taking due account of the considerable health and safety risks both for road users and for construction personnel. The solution depended on the development of innovative construction techniques in an extremely difficult site, carried out on a very steep slope with a level difference of 22 metres over the extent of the works. The construction method required geogrid reinforced earth and soil nailing techniques for structural stability. The embankment surface consisted of a topsoil layer temporarily supported by biodegradable matting and a light steel mesh to support vegetation.

The project was carried out on behalf of Kerry County Council and constructed by Griffin Brothers Limited.

**Winner: Overseas category**

Roughan & O’Donovan: Northern Spire Bridge, Sunderland

The Northern Spire Bridge forms a new connection from the A19 to the Port of Sunderland and facilitates the regeneration of miles of post-industrial river bank. Northern Spire is 340m long and comprises a 24m wide deck, supported by a 105m high A-Frame pylon on driven and bored piles. The central pylon was fabricated in one piece off-site and transported by sea to the bridge site. The deck was assembled in two sections alongside the bridge and launched in two separate phases across the river.

The Northern Spire Bridge team pushed the boundaries of engineering design by developing new methodologies to raise its central pylon and launch the bridge deck across the river. These innovations resulted in significant programme cost savings for the client, Sunderland City Council. The bridge is one of England’s biggest civil engineering projects in recent years.

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