

BuildVision

50 leading
Construction
Industry
Federation
projects
across Ireland

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**Business Post
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Message from the Director General

Welcome to the CIF's Annual Conference

This year, we're celebrating the incredible positive impact the construction industry has on Ireland's economic and social fabric.

Take a moment, have a look around your city, your town, your community. Where you see progress, our industry is delivering change.

Ireland has the youngest and fastest growing population in the EU. It has the fastest growing economy. It falls to our industry to deliver the housing, infrastructure and specialist buildings that will accommodate this growth and provide a world-class built environment for the Irish population.

The CIF is proud that its members have been reshaping Irish society and its economy since the nadir

of the recession in 2013. Today's rapidly changing built environment speaks to their expertise and competence.

Unsurprisingly, this is recognised outside our nation with many Irish construction companies operating on major projects worldwide. Construction exports amongst EI clients grew by 20 per cent last year to nearly €2billion, the fastest growing sector for exports.

Increasingly, Irish companies are starting to take on global markets and acquire foreign companies.

Today's programme boasts a small proportion of the projects that have changed the face of Ireland over the past five years. There are thousands more.

The CIF will continue to gather and feature these to highlight the skills of the 150,000 people employed in the Irish construction industry. More CIF projects can be found on our website www.cif.ie.

Our industry's revolution is captured in the style, scope and scale of these projects. As ever, there is a noble purpose in learning a trade and becoming a craftsperson. Increasingly, careers in the industry are technology-led with the advent of BIM and other modern construction practices.

In addition, construction now offers a globalised career where people can work in other countries in stark contrast to previous waves of migration in the industry.

Finally, our industry is



building its reputation as it reshapes Ireland. These projects are evidence of the industry's evolution.

In 2020, the CIF, in conjunction with the Government will roll out a national campaign to attract young people into the industry again. The message is simple, join construction and you can build: build your career, your community, your country.

Thank you for attending this year's conference and I hope you will join us on this journey.

Tom Parlon
Director General, CIF

Message from An Taoiseach

Working together for social & economic progress

Welcome! I hope you have an enjoyable and productive time at this year's CIF Annual Conference.

Ireland needs a competitive, dynamic, and sustainable construction sector that delivers high quality physical infrastructure for all our citizens. Our prosperity depends on it, and government and industry need to work together to make that a reality.

Central to this is Project Ireland 2040, our plan for ensuring the future development and prosperity of all parts of our country. As delegates will be aware

it links spatial planning and capital investment together for the first time in our history. It's a bold and ambitious vision for the future of our country and it's currently being delivered. This can be seen across the country, and we are continuing to ramp delivery up, with spending on public infrastructure to increase by more than 10 per cent next year, on top of 25 per cent this year.

We are investing in housing, in transport, in broadband, in education and in healthcare – and we are seeing new roads being completed, improvements in our ports and airports, new

hospitals being constructed, and new buildings in schools all around the country.

Housing construction is also increasing and there is some evidence of house prices levelling off. More than 20,000 new homes were built in the past year. The Government's policy is to ensure there is a greater supply of housing: social housing for people on the housing lists; private housing for people who want to buy because most people want to buy their own home; and places available for people to rent.

None of this can be done without the members of the CIF, and we must



work together to ensure it is done as efficiently as possible. With your help and expertise, we are developing our infrastructure, connectivity, communities and our cities as we build a robust and resilient economy and society. Our economic and social progress depends on it.

Leo Varadkar T.D.
Taoiseach



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Vision, innovation & collaboration - a winning formula

The following leading Construction Industry Federation projects for 2019 will take you on an inspiring journey across Ireland's infrastructure.

From the well-known streets of its capital to its charming western coast and the many towns and cities in between, these 50 projects represent the depth of skill and talent that lies within the Irish construction industry.

Careful consideration, from both the CIF and the *Build Vision* team, has led to this list of projects being selected - some at the early stages of development, with others more advanced, newly-finished or in a more established phase of completion.



From breathtaking restoration projects, such as Adare Manor (page 6), to sustainable and innovative designs like those seen at VHI Scot's Church (page 53), construction firms around the country can be proud of what they are building.

We hope you enjoy our featured projects - a true creative showcase and an impressive body of work where collaboration, innovation and vision have produced incredible results.

Building strong business relationships

Business Post Events is proud to be a partner to the Construction Industry Federation of Ireland and is delighted to once again organise for them the highly-anticipated CIF Annual Conference.

As part of the larger Business Post Media Group, the events wing was rebranded from iQuest to Business Post Events at the beginning of 2019.

We are quickly establishing ourselves as the leading conference and corporate events organiser in Ireland.

We now have a portfolio of over 20 conferences taking place throughout the course of the year.

In September 2019 we held our first international event with the UK & Ireland Construction Forum taking place in central London.

We have also established both an exhibition organisation unit within the business, as well as a team curating

bespoke corporate and thought leadership events.

As part of the larger media group, we provide a full-service promotional campaign with digital and print content, social feeds, podcasts and video as a standard around any of our events.

We are already in full swing with exciting plans for our 2020 schedule, particularly around the construction sector.

We look forward to continuing to build on our relationship with the CIF well into the future.



Sarah Murphy



Managing Director
Business Post Events

www.businesspostevents.com

WHAT'S INSIDE

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Adare Manor Hotel & Estate

LOCATION: Co. Limerick

COMPANY: John Paul Construction

COST: n/a

The award-winning restoration of Adare Manor Hotel & Estate is one of the most complex projects completed in Ireland in recent years.

Around 750 workers helped finish this prestigious project in the picturesque town of Adare, Co. Limerick. Adopting a daring approach to restoration led to it winning Tourism Project of the Year at the Irish Construction Excellence Awards 2018 and being voted World's Best Hotel of the Year 2018 at Las Vegas' Virtuoso Best of the Best Awards.

The brief called for a complete redevelopment and restoration of the estate, built in 1832.

Future-proofing the existing building and adding 82 bedrooms and suites in a new west wing block were among works undertaken. The existing 23 suites were transformed, while a new ballroom, cinema and spa facility were also added, alongside a new energy centre and golf clubhouse.

Skilled traditional craftspeople were called in to work on the 1830s manor house, where stone features included a clock tower, gargoyles and over 50 carved chimney stacks.

A collaborative approach helped overcome any challenges. Items sourced for the job also required visits to countries such

as Greece, Turkey and Portugal for stone, marble and other materials.

Niall O'Connor, Contracts Manager for John Paul Construction, said: "The ornate natural stone façade for the ballroom and colonnade was quarried in Co. Roscommon, shipped to Fatima in Portugal for processing and final carving, and then shipped back to Adare for installation.

"We also carefully re-pointed every wall of the manor with lime mortar," he added. "The stone wall parapet and steps of the east side of the manor, leading to the tidal river Maigue, were beginning to collapse, so they were

taken down and rebuilt to perfectly match the original detail and style."

Substantial repairs were also carried out on the roof, towers and windows.

"Using Killaloe slates from a local quarry, all 13 pitched roofs were re-slatted," O'Connor said. "Wrought iron finials on the top of the Hardwick tower were also taken down, repaired and reinstated, along with the decorative leadwork and timber structure supporting it."

Repairing the iconic stained-glass windows in The Gallery - where breakfast and afternoon tea is now served - was among the more delicate tasks undertaken.

Aran Sweater Market

LOCATION: Galway City

COMPANY: Duane Construction

COST: €1million

This construction project on behalf of Glenaran Ltd led to a surprise historic discovery of national importance in Galway city. Duane Construction were brought in to undertake the sensitive restoration of the Aran Sweater Market - once derelict buildings at 25 Quay and 2-5 Quay Lane. The build, a 10-month restoration project which began in September 2017, led to the exciting discovery of Galway's first Norman stronghold.

Restoring the five protected structures, ranging from medieval to Georgian, at the gateway to the city's Latin Quarter was a difficult task involving conservation, history, archaeology, civil engineering and good

relationships with the surrounding people and businesses.

A new independent concrete structure was created within the fabric of the existing building following discussions with a team that included ACP (Architectural Conservation Professionals), Tobin Consulting Engineers and Dr Jim Higgins, Galway City Council Heritage Officer.

Other challenges included the reconstruction of the roofs, stone doors and windows as well as the Georgian chevron ceiling.

Duane, in full detective mode, turned to their stone suppliers McMonagles Stone for help in recreating the medieval windows and doors.



A historic discovery

Planning conditions dictated that an archaeological survey be carried out at the site. Beneath the 16th century building at 25 Quay Street, archaeologist Frank Coyne and his team at Aegis Archaeology - who were on site for five months - discovered the foundations of a mid-13th century building. This was later identified as Galway's first Norman stronghold, de Burgo Castle - the location of which had been previously unknown.

Under 5 Quay Lane, there was also evidence of the original shoreline, along with boulders and smaller rocks believed to be the remains of the O'Flaherty stronghold from the early 1100s. The foundations of de Burgo Castle have now been left exposed under a glass floor. "You cannot fight with history," said Duane Construction Managing Director Seán Duane. "You can't change something just because you feel like it. You have to let history talk."



The Atrium Block B

LOCATION: Dublin 18

COMPANY: mac-group

COST: n/a

Over 90 per cent of waste was recycled during the fit out of The Atrium Block B project by mac-group at Sandford Business Park.

The Atrium, completed with LEED Gold accreditation, included the design and installation of bespoke raft systems supported by tensioned cables that were suspended from the roof.

Modular construction was used with units installed on an August bank holiday Sunday. Two road closures were put in place around the building to allow two cranes to lift at the same time to opposite sides of the building - ensuring the units were in position within the

allocated closure period.

Exposed services were a major feature of the project and so BIM was used to create a more efficient and aesthetically pleasing installation.

To that effect, Project Manager Alan O'Neill also organised and chaired numerous design workshops with the mechanical and electrical contractors and design team to agree on the best and most functional finish for this open plan office space. Key executives on the project included Mitchell McDermott, Plus Architecture, Barrett Mahoney and Axis Engineering.

Aurivo Spray Dryer

LOCATION: Co. Roscommon

COMPANY: Kenaidan Contractors Ltd

COST: €10,000

Kenaidan Contractors Ltd began work on this record-breaking project in August 2018. All reduced-level excavations, shuttering, formwork and steel reinforcement placement to the foundations and the ground floor slab were

carried out within a six-week period.

This culminated in a single 1,100m³ concrete pour – the largest ever carried out in the west of Ireland.

Superstructure works involved the construction of

a 36m high pre-cast concrete frame, with in-situ structural concrete screeds poured on each floor and roof level.

In addition, Kenaidan Contractors Ltd also managed, facilitated and coordinated the installation and commissioning of a further €16million of bespoke process equipment.

The concrete roof screed of this effectively 12-storey high structure was poured in December 2018, just 20 weeks

after works commenced.

Once all equipment was inside, the building could then be closed by sealing any remaining walls in blockwork before installing the new cleats, cladding rails and Kingspan wall cladding.

The project included a standard M&E installation and also specialised installation and commissioning of services required by the process equipment.

A new, bespoke LNG gas farm – the first of its type in Ireland – was constructed to supply a clean, sustainable and efficient energy supply.

Floors were finished in a polyurethane resin with antimicrobial qualities.

The project was officially handed over in May 2019, however the plant had the capability to produce its quota of milk powder from mid-April.



Record-breaking pour

Over 1100m³ of concrete was placed in one continuous pour involving two concrete pumps. A total of 140 loads of concrete were delivered by 35 trucks. The pour rate was 150m³/hour.

Autodesk EMEA HQ

LOCATION: Dublin 2

COMPANY: mac-group

COST: €3.8million

Paying tribute to an area's artistic heritage resulted in this dynamic, tech-advanced project inspired by the history of Dublin's Docklands. Mac completed the full office fit out and refurbishment of Autodesk EMEA HQ – roughly 27,000 sq ft.

The theme of picturesque 'postcard Dublin' can be seen throughout the office from the locally inspired graffitied walls to architectural aspects taken from old Irish pubs and famous landmarks such as the River Liffey and Ha'penny Bridge.

The project was led by Project Director Brendan Morley and Project

Manager David Conneely with mac currently on site delivering a second phase of the headquarters.

Among the most striking features of phase one are the colourful iconic Georgian doors, complete with large fanned windows, uniquely placed inside the office building.

Inspired by industrial growth in the Docklands in the early 1800s, furnishing, materials and finishes were chosen to reference the coal mining, sugar



The Autodesk team were so impressed with mac Site Manager Damien Quinn that his name was immortalised forever in the graffiti art created for the office walls.

refining, flour milling and glass bottle production of that time. Inside is an array of workspaces, meeting rooms, phone booths, open plan stations and a media suite. There's also large open spaces, a bar

library and games room for employees, which replicates elements from neighbouring attractions the Jameson Distillery Bar and Trinity Library. Anyone for a game of air hockey?

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Bewley's Grafton Street

LOCATION: Dublin 1
 COMPANY: Flynn
 COST: €8.6million

EXPERT VIEWPOINT

"The challenge at Bewley's was to follow the design intent in restoring the café in keeping with its original mahogany timber panel detailing in what was presented as a bare shell with all walls stripped back, not one of which was parallel or perpendicular to another."

Brendan Duffy, Project Architect

Owner Paddy Campbell described the revamp of Bewley's Grafton Street as "a dream come true".

Few people who visit Dublin can resist a visit to this iconic city landmark that has the added bonus of offering a very good cuppa.

Established in 1927, the café has been part of the lives of generations of Irish people. But being located in the heart of the city presented a number of logistical challenges for Flynn, who were chosen to work on this significant project.

Honouring this listed building's heritage to create a fresh space on the 16,125 sq ft site, while adhering to strict planning regulations, added further complications from the start of the 36-week build.

Flynn set about restoring the café's unique features including its famed Harry Clarke stained-glass windows, banquettes, open fireplaces and Egyptian-motifed facades.

Working on a design and build contract to avoid escalating costs due to unforeseen issues, Flynn transformed the space by opening up the building to let more natural light in.

Black Carlow oyster limestone and white Carrara marble were added, alongside an open-concept bakery for customers to see their buns and pastries being made.

One of the key talking points of the project was restoring many of the original stained glass windows such as those in the rear tearoom - known as the Harry Clarke Room.

Stained glass windows by Jim Fitzpatrick, originally located at Bewley's Mary Street, were also relocated to Grafton Street, while Voyage Bipartite - a religious inspired piece - originally located at Grafton Street is now in the James Joyce Café.

Attention to detail was present at every level. For example, wallpaper was carefully removed and sent to David Skinner to replicate and handcraft the original design.

McCarthy & Associates, Scollard Doyle, Gilligan Architects, Barrett Mahoney Consulting Engineers, Richard Dixon & Associates and Property Concepts were all involved on the project, which was completed to include a full upgrade to BCAR standards - no small feat for a property of this age.

"What we were trying to achieve is the modernisation of this iconic property to its former glory ensuring that the unique features of the design were upheld and fully restored without compromise. The end result not only achieved this but updated the property to current standards with a bright and vibrant atmosphere." said architect David Gilligan.

Did you know?
 Cobble-lined Grafton Street is a warren of underground tunnels so heavy duty cranes needed to lift Bewley's new roof plant could not be used. Instead the new plant was roof mounted by breaking down all plant and equipment and using lightweight lift equipment. Modular plant rooms were also used to overcome some of these challenges.

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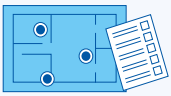
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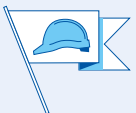
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The Butler Gallery

LOCATION: Kilkenny City

COMPANY: Mythen Construction

COST: €5million

Charged with marrying the old and the new, Mythen Construction always knew Kilkenny's Butler Gallery would be an exciting project to work on.

The company was tasked with giving a new lease of life to the long-neglected Evan's Home building - a former Church of Ireland almshouse built in 1818.

The project, due for completion in Spring 2020, involves the conservation of Evan's Almshouse and the relocation of the original Butler Gallery, which currently resides at Kilkenny Castle.

A listed building, Kilkenny County Council are developing a cultural quarter in the heart of the

city - relocating The Butler Gallery into this historic property as part of those plans.

Conservation and restoration have been paramount, with Mythen following current guidelines in regards to re-roofing works (fully completed), building fabric restoration, stone replacement and re-pointing.

A new contemporary extension, adjacent to the River Nore, has also been connected to the listed building using an augur piling solution to overcome the challenging ground conditions.

Once completed, The Butler Gallery will house a range of art forms including



the Butler Permanent Collection, the Tony O'Malley Collection, and a gallery for major temporary exhibitions.

The space will also include Evan's garden where sculpture and archaeology can be displayed. Operated by Kilkenny Arts Society Ltd, The Butler Gallery will also house artist studios and fully house the society's education and community outreach programmes.

Archaeological treasures

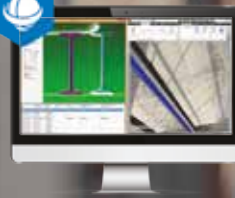
The archaeology team working on The Butler Gallery found trinkets and two skeletons inside the old building. The remains of a further 148 people, dating back to the 13th or early 14th century, were also discovered under Barrack Lane. This area formed part of the original cemetery of St John's Priory, which dates back to the 1240s.



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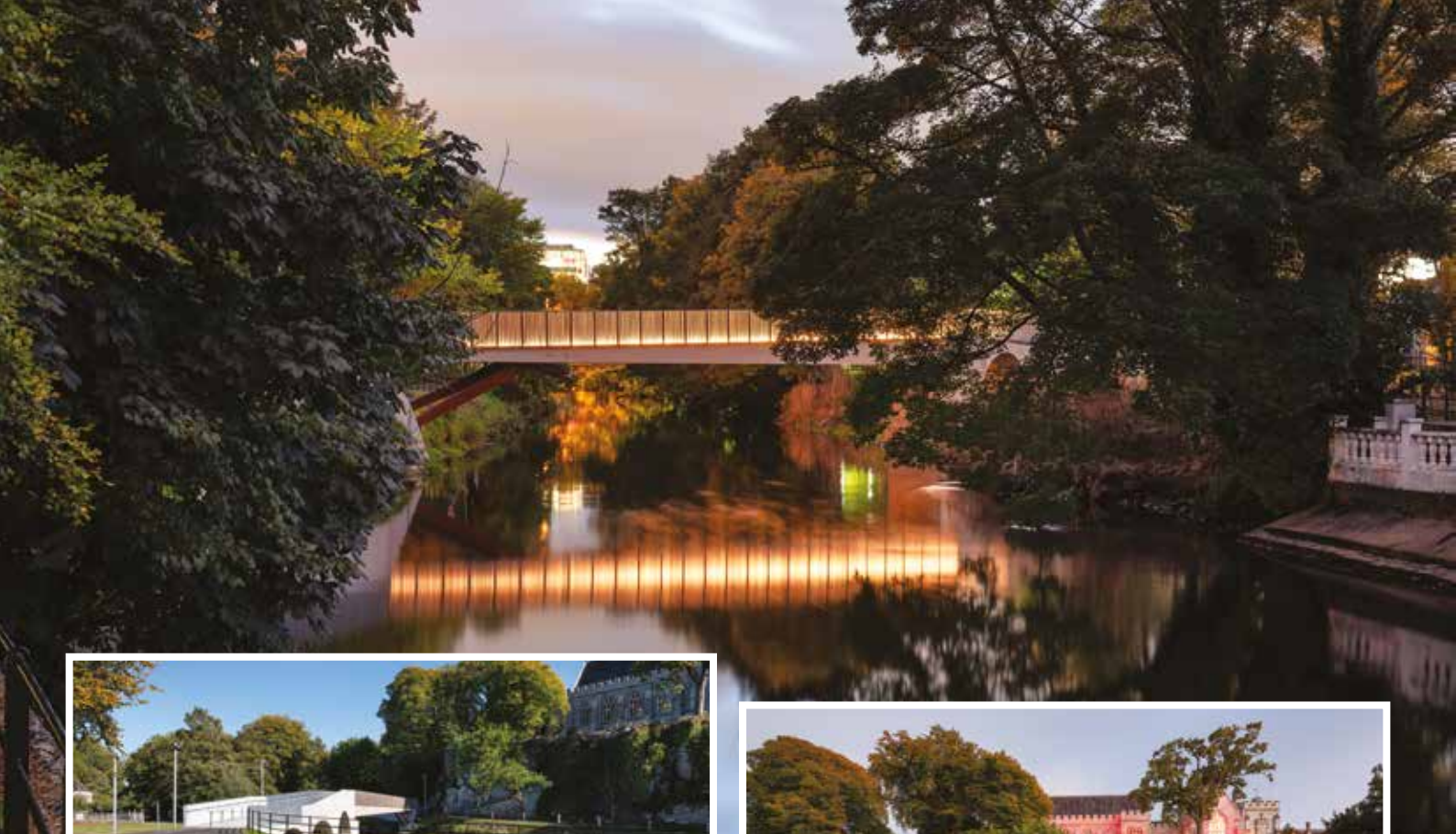
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 **TOPCON**



Cavanagh Bridge UCC

LOCATION: Cork
COMPANY: Keating
COST: n/a

This new pedestrian bridge at University College Cork (UCC) is the perfect marriage of classic design and modern-build quality.

An award-winner at the 2019 Irish Concrete Society Awards, the project was delivered by Keating.

Designed by O'Donnell+Tuomey, it spans a 27 metre bed over the River Lee and is located within campus on Western Road.

The bridge structure is made up of five glulam beams, with galvanised steel frames which were filled with Jatoba hardwood decking and balustrades.

The project involved sheet piled cofferdams to dewater the abutments, CFA and ODEX piling, as

well as fair-faced concrete to the new abutments and approach structures.

The site works also included treatment of invasive species - including Japanese Knotweed and Himalayan Balsam, while root protection was installed under new paths and a temporary compound area.

Ducting for new services also had to be excavated - using air-spading where the services were close to established trees.

Working in collaboration with UCC, access to and from the site and ancillary works outside the site were carefully coordinated and controlled to avoid disturbing residents.

The bridge has also been designed and located in such a manner as to minimise its impact on neighbouring properties.

The aesthetics were designed to be a marriage of classic design with modern build-quality.

This project was an integral component of the UCC's privately-funded Environmental Development Plan and is the first new bridge over the river Lee in more than a decade.

The bridge serves as the centrepiece of the Perrott's Inch redevelopment and redesign as a landscaped space for student, staff, and public use.

Keating acted as the main contractor and PSCS on the

project. Some of the work was carried out directly and some was sub-contracted. Keating co-ordinated all the construction and health and safety activities.

Award-winning

The Cavanagh Bridge won the Elemental Category and claimed the Overall Award at the 2019 Irish Concrete Society Awards - a celebration of excellence in the design and construction of concrete structures.

Keating also won the Overall Award in 2017 for their St. Angela's College project, also in Cork.

Center Parcs Longford Forest

LOCATION: Co. Longford

COMPANY: Roadbridge

COST: €233million

A new addition to Ireland's tourism and leisure market, Center Parcs Longford Forest is a €233million forest resort.

Completed and opened in July 2019, it is set among 400 acres of Irish woodland, consisting of 466 self-catering lodges and 30 apartments, up to 100 indoor and outdoor activities and 10 restaurants.

It can accommodate up to 2,500 guests.

Its centre-piece is a subtropical swimming paradise. Heated to 29.5C year round, it's Ireland's largest indoor water park.

Center Parcs announced plans to expand into Ireland four years ago.

Constructed in just under two years, civil engineering company Roadbridge were brought on as the project's infrastructure contractor under a JCT design and build contract.

John Sisk & Son were tasked with the lodge and village centre contracts.

Among the works undertaken

by Roadbridge included the excavation of the village centre swimming complex basement, 466 lodge foundations – some with up to 3m in depth of peat, as well as the construction of all lodge utilities and services. The company also provided the complete foundations for the resort's superstructure.

Roadbridge's contract began May 2017, with the first handback of 36 lodge plots taking place that November. An average of 48 lodge plots were then handed over monthly thereafter until the final set in July 2018.

The project was developed by Center Parcs UK whose parent is global commercial real estate company Brookfield Property Partners.

The resort, open 365 days a year, is the first outside the UK for the company, which has five villages in Britain.

During construction more than 750 people were employed, with a further 1,000 permanent jobs created now it's fully operational.

Resort & works in numbers:

2,500 - guest car park spaces

1,000sq m - building for house-keeping & technical services

466 - lodges

400 acre - site

30km - power cables

20km - data cabling

12 - foul pumping stations

11km - water main

10km - gas main

10km - storm sewer

9 - substations

9km - road construction

6km - foul sewer

3.3ha - sports lake

Center Parcs Longford Forest is expected to provide a €32million annual boost to the Irish economy - adding an estimated €1billion to GDP in the coming two decades.

Taoiseach Leo Varadkar described the development as a potential game changer for the midlands of Ireland.

"It will bring unprecedented numbers of tourists to this beautiful part of the country and the €233million investment which has been made by the company in Longford is almost certainly the largest in the county's history," he said. "The Irish tourism industry has grown steadily in recent years and this addition to our tourism offering will ensure visitors get to experience a part of the country they may otherwise have missed."

Reaction to Center Parcs

"IDA Ireland is pleased to support Center Parcs and I would like to congratulate its leadership team and 1,000 employees on the delivery of this significant €233million investment project. Center Parcs Longford Forest has provided a major jobs boost for the Midlands region and will provide a significant contribution to Ireland's economy and tourism and leisure market."

Mary Buckley, Executive Director IDA Ireland

"Everyone at Roadbridge would like to take the opportunity to wish Center Parcs Longford Forest great success and we have immensely enjoyed our time working on this landmark project. We would also like to thank our dedicated and enthusiastic construction team for constantly portraying the best of Roadbridge at all times."

Jim Mulcair, Executive Chairman, Roadbridge

"We all feel an enormous sense of pride and achievement to see the beautiful surroundings of Newcastle Wood transformed into Center Parcs Longford Forest and for Ireland's families to finally have the opportunity to enjoy a unique forest resort experience. This is a great day for Center Parcs and I want to thank our construction partners Roadbridge and Sisk, for helping us to bring our vision to life."

Martin Dalby, Chief Executive Center Parcs



Capital Credit Union

LOCATION: Dublin 18

COMPANY: Richard McEvoy Contracting Ltd

COST: €400,000

Shortlisted for Retail Project of the Year in the 2019 Irish Construction Industry Awards, Capital Credit Union was a 10-week project completed in February in association with Kruger Lyons Architects.

Works included the fit-out of an existing grey shell building within the busy Leopardstown shopping centre.

The external façade was altered to accommodate a new automated entrance, while inside glazed and plasterboard partitions, detailed ceilings and bulkheads, stone and carpet flooring complete the project's aesthetic.

Special attention was given to graphics on the walls

and glazing, while bespoke lampshades were specially sourced and commissioned.

Joinery works on this turn-key project included a banking counter, curved desks and elliptical column enclosures.

Electrical installations included power, data, intruder and fire alarms, access control and CCTV, while mechanical works included concealed air conditioning unit and ventilation with concealed internal AHU.

This Richard McEvoy Contracting Ltd project was also awarded Best Commercial Fit-Out & Refurbishment Specialist - Republic of Ireland by *Build* magazine.

Dominick Street Regeneration

LOCATION: Dublin 1

COMPANY: Duggan Brothers (Contractors) Ltd

COST: €35million



The regeneration of Dominick Street's 1960's social housing will see 72 new homes being built in this north inner city area of Dublin, which was originally founded in the 1750s but fell into decline.

Tipperary's Duggan Brothers (Contractors) Ltd - where Chairman Kevin Duggan and joint Managing Directors David and Seamus Duggan are at the helm - were appointed main contractor in November 2018.

Work commenced in January 2019 and new homes are expected to be ready by summer 2021.

The mixed-use development will be made

up of 67 apartments and five houses.

There will also be a landscaped residential courtyard, commercial and retail space, a community centre as well as a basement car park on the 1.26ha site, situated on the new Luas Cross City Red Line, just off Parnell Street.

The new homes are being built on part of the former flats complex on the east side of Dominick Street.

According to the contractors, the project has been designed to be sympathetic to the area's Georgian heritage and is expected to be an example of city apartment living and social housing.

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Coming up...

GARDA HQ *Page 28*



MAC DUBHUB *Page 33*



Dorset Street Hotel Development

LOCATION: Dublin 1

COMPANY: Duggan Brothers (Contractors) Ltd

COST: €20million



Work officially began in June on the €20million Dorset Street Hotel Development.

Duggan Brothers have been contracted to the project, which will see a new six-storey hotel built on the site of the famous North Dublin Tavern The Big Tree.

The mixed-use 163-bed pod hotel and retail development will have an overall gross floor area of 5,820 sq m. Retail use will be accommodated

at ground level with hotel accommodation above.

The Dublin Loft Company will provide 163 bedrooms, a reception, lobby, circulation areas, plant and store rooms as well as landscaped courtyards to the rear of the site.

An ESB substation room accessed from the North Circular Road, associated signage, boundary treatment and ancillary works will complete the project.

Facebook HQ

LOCATION: Dublin 2

COMPANY: Crown Roofing Ltd

COST: n/a

Crown Roofing has delivered a number of high-profile technology projects over the years including this 6,000 sq m project at Facebook HQ in Dublin. Working alongside main contractor Sisk, the Co. Wicklow company was behind the installation of a Paralon flat roof system and IKO Permaphalt asphalt system to all roofs and the ground floor podium for the Californian firm - who have plans to add a further 5,000 people to its Irish operation in the coming years.

Led by Chief Operating Officer Emma O’Gorman Wall and Managing Director

Owen O’Gorman, Crown is a roofing, cladding and facades specialist contractor working in Ireland, the UK and across Europe.

Established in 1993, Crown partners with tier one contractors, pharma companies and property developers to deliver key projects including numerous data centres for top players in digital technology such as LinkedIn, IBM, Google and Paypal.

The company was recently approved by Solas as the only roofing, cladding and facilities approved training centre in Ireland.



Gardens International

LOCATION: Limerick City

COMPANY: JJ Rhatigan & Company

COST: €22million

Old meets new at Gardens International, a commercial office development on the corner of Limerick city's Glentworth and Henry Streets.

The project merges the early 19th century Roches Hanging Gardens, the old Mercantile building and the former GPO, with a new steel framed building.

The old Hanging Gardens building had been derelict for 10 years before this project began through a series of fragmented parts - two vaults, the original warehouses with roof top gardens, the GPO's red bricked buildings and what was left of the courtyard.

Galway firm JJ Rhatigan & Company has blended conservation and construction to create a dynamic modern structure and restored heritage buildings.

The building has an open five-storey concrete stairs shaft into which an architectural steel stairs was fitted.

A high-risk task in terms of health and safety, it added to the installation's complexity but has provided a seamless link between the new and old structures.

The façades include curtain walling and rainscreen cladding systems to create large, light-filled office spaces.

The jewel in the crown is the restoration of the Hanging Gardens building, which forms a new entrance through the old brick vaults and a striking boardroom off the main reception area.

Designed by Carr Cotter Naessens Architects and Denis Byrne Architects, the project won one of two RIAI Workplace New Build Awards earlier this year.



Striving for sustainability

The project is Limerick's first city centre LEED Gold certified office scheme - standards that are among the top international benchmarks for sustainability.

The development has been completed with a structural glazed façade to provide high level environmental control in the office space, minimising solar gain and reducing imposed air-handling energy requirements.

It also includes automated fully-glazed entrance doors, natural stone flooring, a turnstile security system, car parking space and cycle bays.



Frascati Shopping Centre

LOCATION: Blackrock, Co. Dublin

COMPANY: Collen Construction

COST: €30.5million

A major challenge on this multi-million euro landmark retail building project was maintaining access to the public while allowing the centre to function throughout construction.

This was successfully achieved by Collen Construction through careful planning with centre management, with the project being handed over in 14 different phases to make this possible.

One of the first hurdles to overcome was the diversion of an existing live stream culvert running under the new car park to make way for basement car park foundations.

This involved piling around

the perimeter of the existing centre and demanded detailed traffic management plans to ensure deliveries and public access was maintained.

Detailed crane lifting plans were required for the 16m spanning precast slabs that house the new carpark, while tandem crane lifts were needed for some of the architectural pre-cast panels that form the building's façade.

Detailed protected temporary works designs were a key factor, leaving the public oblivious to high volume of works progressing around them.

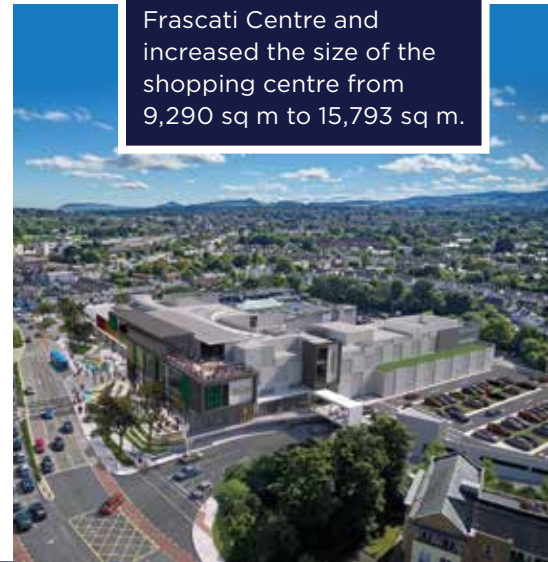
All linings and widths of temporary tunnels and



This scheme delivered by Collen Construction rejuvenated the existing Frascati Centre and increased the size of the shopping centre from 9,290 sq m to 15,793 sq m.

accessways – made up of over 1,500 tonnes of structural steel – also needed to meet stringent safety requirements.

A new glazed roof and curved feature wall are standout features of the new building, allowing natural light to flood the atrium.



Galway Wind Park

LOCATION: Co. Galway

COMPANY: Roadbridge

COST: €35.1million

Compared to fossil fuels, approximately 190,000 tonnes of CO2 emissions will be saved annually as a result of energy generation at the Galway Wind Park.

The project, situated near Oughterard, is capable of supplying 220MW of power.

Roadbridge, working with designers Fehily Timoney & Co, was responsible for the design and construction of all civil elements of the build

(15 per cent of the total project) on behalf of client SSE Renewables.

The contract involved the excavation and construction of hardstands and bases for 58 Siemens turbines, three permanent met masts, a new sub-station and operations building.

Overall, the Galway Wind Park is a €390million project made up of a cluster of four individual wind

Works included:

- Installation of 530km of electrical cabling
- Upgrade of 15km of existing roads and access tracks
- Construction of 35km of new access roads

farms at Cloosh, Seecon, Lettercraffroe and Uggool.

Ireland's largest wind farm, it has the capacity to power 90,000 homes.

Roadbridge were faced with a number of environmental challenges during the build, including steep topography and no inter-site movement between the four farms.

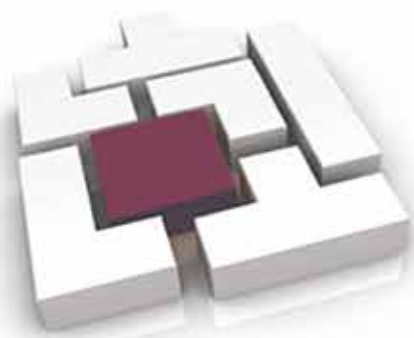
The company was also required to carry out pre and post bird surveys on the

vast 40 sq km site, located in the Corrib catchment – a potable water source for Galway city and a major fishing amenity.

The majority of the Uggool site was also located within a national heritage area.

There were over 260 personnel on site during peak construction period, with over 877,000 man hours undertaken without a lost time incident.





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Glanbia Temporary Freestanding Structure

LOCATION: Belleview, Co. Waterford

COMPANY: Skyline Scaffolding Ltd

COST: n/a



The innovative delivery of this temporary weatherproof structure for Glanbia shows what can be accomplished using Layher Scaffolding.

The project was undertaken by Co. Tipperary company Skyline Scaffolding Ltd who, led by Managing Director Kevin Walsh and Director Róisín Mellett, have been providing specialist scaffolding services to pharmaceutical and clean industries for over 20 years.

This temporary structure was required to allow the prefabrication and assembly of dryer and components in a weatherproof environment on the construction site.

Skyline Scaffolding Ltd erected a freestanding, 1,645 sq m structure with a 25m span and no ties at eaves height.

The structure was shrink-wrapped to ensure it was weatherproof, which meant it couldn't be anchored and ballast had to be incorporated at the lowest level.

The roof proved a significant challenges as it had to be open so the dryer could be removed by crane when completed. A rolling mobile roof was installed as a result.

An innovative solution was found to make the opening even larger for the crane, with ledgers removed between every second beam so that the roof covering could be pushed together like an accordion.

The team's innovative approach led to the project being highlighted in a number of technical and industry journals, as well as featuring in the *Layher Quarterly Magazine*.

This approach to on-site construction and utilising the Layher System has been replicated since on a number of other sites including Aurivo in Co. Roscommon.



Global Pharmaceutical Company

LOCATION: Dublin

COMPANY: Ardmac

COST: n/a

Led by CEO Ronan Quinn, alongside Managing Directors Roy Millar and Alan Coakley, Ardmac is a company focused on the future.

Digital construction is very much as the heart of its operations as seen in this project where the company was responsible for coordinating design, 3D Revit and Building Information Modelling (BIM).

Working within the construction site, Ardmac provided the architectural finishes for this cleanroom manufacturing space and QC clean lab.

The facility features a 12-metre high API clean area enclosing a structural platform and significant

glazed partition to allow natural light to flood in.

Various door solutions, from rapid rollers to sliding doors, coupled with epoxy and vinyl floor finishes, glazed partitions and blinds feature in this 1,600 sq m facility.

Mist showers, terminal housings, safe change units, lighting, pass-through hatches and wall protection bump-rails and bollards were among the accessory features.

Through coordinating with other contractors and managing the extensive delivery planning and schedules over a six-month period, Ardmac's scope also included partitions and 2.5kN second generation cleanroom ceilings.

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The important of conservation

Originally achieving a BER of F the combined new and existing Goethe-Institute building now has a a BER of A3 - a new standard for conservation projects in Georgian Dublin.



Goethe-Institute

LOCATION: Dublin 2
 COMPANY: Stewart Construction
 COST: n/a

The Goethe-Institut project sets a new benchmark for both the conservation and reimagining of Georgian Dublin, says Stewart Construction who were recently awarded Conservation Project of the Year and Education Project of the Year for this elegant project on Dublin's Merrion Square.

Designed by Henchion Reuter Architects, the project was commissioned by the German foreign office with the aim of returning the Goethe-Institut's Irish Headquarters to its former period glory.

A new garden and contemporary mews building were also constructed to the rear.

Significant work was undertaken on this protected 1790 Georgian townhouse to

preserve its period character but also improve its services and sustainability.

Features such as wheelchair access through much of the original building and an A Building Energy Rating were achieved as a result.

Inside, original materials - such as sash windows, cornices, balconies and iron roof lights - were repaired, retained and reused with all works carried out under archaeological supervision.

Two stencilled artworks, dating from the 19th century, were also uncovered under old wallpaper either side of the chimney breast in the rear room.

Stewart Construction's in-house BIM team worked to overcome services and other build challenges on site.

Goldcrest Village Student Accommodation, NUI Galway

LOCATION: Galway City
 COMPANY: JJ Rhatigan & Company
 COST: €26.5million

Goldcrest Village Student Accommodation is one of the largest capital projects delivered recently on the NUI Galway campus and in Galway city itself.

Constructed on a partially greenfield site there was an 84-week timeline to construct and fit out the facility in time for the start of the 2018 university term.

Alternative innovative design and construction were considered from the outset. Contractors JJ Rhatigan changed from a traditional concrete block, steel and concrete frame to

a precast concrete solution which provided for a more efficient build.

Materials and products were chosen to stand the test of time and withstand the strong wear of a student environment.

Aided by BIM, the company embraced off-site construction techniques including bathroom pods and precast concrete.

The project features a total of 429 en-suite bedrooms set in 76 apartment units, including nine wheelchair accessible ground floor



bedrooms across four blocks.

Block A, the tallest of the blocks, runs parallel to the River Corrib and defines a pedestrian and cycle way linking the residences to the

wider campus.

JJ Rhatigan previously delivered NUI Galway's Science Research Building and Lifecourse Science Institute in 2013 and 2014 respectively.

Grant Thornton HQ Building

LOCATION: Dublin 2

COMPANY: Bennett (Construction) Limited

COST: Shell & Core - €45million

Fit out - €14.6million

A bespoke, considered yet flexible design and build are at the heart of this city quay office development from Co. Westmeath construction company Bennett, who transformed a brownfield riverside site in Dublin's central business district.

There are panoramic views along the historical Campshires and the Dublin Mountains from this 15,530 sq m eight storey over basement building whose elevations step down from nine to five storeys to reflect its surrounds.

Three separate restaurant, café and retail units at ground level also make up about 984 sq m of additional internal area.

The lower facades of the west and south elevations are clad in flamed limestone - there's a palette of bronze anodised aluminium and dark limestone throughout - while the fifth, sixth and seventh floor offices benefit from sanctuary-like landscaped outdoor terraces.

Its façade includes a full height glazing system where a series of bronzed 'fins' rise vertically across two floors, accentuating both the building and providing solar shade.

This clever build has been designed in such a way as to allow for future sub-division into two self-contained tenancies across each floor.

Its basement level has space for 30 cars, five motorcycles and 138 bicycles.

The building, which features a newly-landscaped plaza at street level and corridor spaces with views of the River Liffey, is the product of expectation and ambition.

At the early stages of the project, the client travelled with the design and build teams to identify buildings they believed to be benchmark examples of what they wanted on City Quay.

Staff have since made this award-winning building their own, with bright stairwells becoming ad-hoc meeting spaces.



COMPANY: Walls to Workstations (W2W)

Grant Thornton won Construction Project of the Year with this building at the Irish Construction Industry Awards, also placing third in the RIAI Public Choice Award 2019.

W2W supplied and installed high-end system and loose furniture, Shaw Contract flooring, glazed partitions and fire screens for this head office development. W2W were contracted to supply and install high-end system and loose furniture items for the micro kitchens, canteens, boardroom and all system desking for the open plan office space.

MCA Architects specified bespoke Grant Thornton brand colours for the Arper Catifa chairs in the kitchen areas.

Knoll's Scope Light fixed desks were supplied and installed for all employees.

The Arper Steeve Bench added a level of sophistication to the boardroom, while B&B Italia's iconic Papilio Shell Chair was used for the large river-facing terrace.

The fit-out team supplied and installed Optima's Rev 54 and Rev 100 double glazed screens across six floors of the building to achieve excellent acoustic performance - a rating of Rw45dB - and aesthetic appeal.

A fire rated Optima Pulse screen and door set have also been fully tested and assessed to achieve a fire rating of up to 60 minutes integrity only. W2W, led by key executive Stuart Ramsden, also supplied Shaw Contract's Dyelab floor tile in black tea on this project to create a luxurious feel throughout.



Johnstown Castle

LOCATION: Co. Wexford

COMPANY: Tom O'Brien Construction Limited

COST: n/a

Johnstown Castle estate, museum and gardens opened to the public in June 2019 following a programme of extensive restoration works. Gothic-Revival in style, the Co. Wexford castle's origins date back to the 12th century but over past decades it had fallen into a state of disrepair.

To bring the property back to life, The Irish Heritage Trust and Teagasc enlisted the expertise of award-winning Waterford firm Tom O'Brien Construction - whose experience spans diverse sectors, including commercial, industrial, educational, pharmaceutical and conservation works.

The multi-million euro project involved a meticulous restoration of the three floor

over basement castle.

The original 86-metre long underground servants' tunnel - believed to be the longest in the country - was also fully restored.

A new lift serving all four floors was installed, while all mechanical and electrical services throughout the building were upgraded.

Walls were underpinned and a three metre excavation below the castle was required to allow works to be on the new lift system. Special attention was given to fireproofing.

A sump and pump also had to be installed in the basement to regulate water levels and prevent historic flooding.

Safeguarding the castle's future was a key goal of this project.



Image: (c) Tourism Ireland

Substantial works were carried out, including re-roofing, timber floor upgrades and the delicate restoration of internal and external joinery.

Interior works also including repainting and re-plastering as well as the reinstatement of original cornices and tracery panels, chandeliers and restoring the original wallpaper and decorative timber works. Externally, the original stone walls were repointed.

A history of Johnstown Castle

Johnstown Castle was built by the Esmondes - an English family who came to Wexford after the Anglo-Norman invasion of 1169. Oliver Cromwell once spent the night there.

It was donated to the Irish State after its last occupants The Grogan family moved out in 1945.



Kerry Central Regional Water Supply Project

LOCATION: Co. Kerry

COMPANY: MEIC Ltd (Mota Engil Ireland Construction Limited)

COST: €23.5million

Delivered by MEIC Ltd, the Kerry Central Regional Water Supply Project now supplies safe drinking water to over 62,000 people. The project serves the main population centres of Tralee, Killarney, Castleisland and Castlemaine and surrounding rural areas.

MEIC were procured under a design, build and operate contract and delivered a new water treatment plant to produce 51,000 m³/day of treated water daily.

The existing intake works at Owengarriff were also upgraded to include the installation of a new Hydro-Electric power plant and new intake works at Lough Guitane.

Kerry Central, led by Luis Silva, Tom O'Connor, Andrew Driver, won the Civil Engineering category at last year's Irish Construction Excellence Awards.

It was also shortlisted in the BIM Excellence category in recognition of being the first major water infrastructure project completed using the highest BIM methodologies.

It was awarded the Engineering Project of the Year at the Engineers Ireland Excellence Awards.



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Kevin Street Garda Headquarters

LOCATION: Dublin 8

COMPANY: JJ Rhatigan & Company

COST: €28.3million

This cutting-edge landmark civic building, designed by the OPW, was delivered by Galway firm JJ Rhatigan.

Kevin Street Garda Station is the divisional headquarters for An Garda Síochána in Dublin's south inner city.

This 21st century building, which replaced the existing station known as St Sepulchre's Palace, extends to 6,840 sq m of office space with a 5,400 sq m double basement. Impressively engineered, it cantilevers five storeys over Bride Street and has a six-storey glazed internal atrium sitting over a double level basement car park.

A public reception, meeting rooms with cell containment areas, garda welfare facilities, offices and specialist review rooms as well as an external landscaped area make up the lower levels.

Higher up, offices run along the curve of the building, while the fifth floor and main roof contains features such as zinc clad skylights and a panoramic glazed roof light.

One of the most impressive architectural and structural elements is the curved granite stair, spanning the height of the atrium.

Another extensive element of the construction is the joinery detail - 8,630 linear meters of solid ash was used in the atrium fittings and louvre framework.

The oak brise soleil feature runs the length of the curved corridors on all floor levels.

From the start, a meticulous approach to traffic management and logistics was key to JJ Rhatigan's operations, including 'just-in-time' delivery to site due to restricted storage.

Lahinch Promenade Refurbishment Works

LOCATION: Co. Clare

COMPANY: Keating

COST: €2.1million

Marine, civil engineering and building company Keating took on the might of the Atlantic Ocean with this refurbishment project in the seaside resort of Lahinch.

The Co. Clare town, located on Liscannor Bay on the ruggedly handsome Wild Atlantic Way, is a lure for surfers, holiday-makers and tourists around the world.

To future-proof this picturesque part of Ireland from the elements, Keating undertook vital repair and refurbishment works to beach access infrastructure as well as various coastal protection works.

The existing coastal protection fronting the promenade was also strengthened, with 40,000 tonnes of primary and secondary rock armour with up to eight tonne pieces imported and placed on site.

A concrete apron was constructed at the junction of the rock protection and the seawall.

Construction of new concrete access steps and ramps through the revetment, as well as a flood gate were also carried out, while the existing access ramp was widened and extended.

Works were completed on a phased basis in order to maintain access to the beach.

Keating, who last year established offices in the UK, is led by CEO Gordon O'Regan, COO Marcus Carne and Director Lorchan Hoyne.

The company was founded in Mullagh, Co. Clare in 1987 under the name L&M Keating.





Developing Dublin's skyline with digital technologies

The Minister for Housing, Planning and Local Government recently released new guidelines calling for councils to lift 'overly restrictive maximum heights' to enable cities and towns to grow upwards - as well as outwards - and to meet challenges such as housing the growing population. But, how do we ensure safety when building upwards? DECLAN BYRNE, Technical Sales Specialist at Topcon Positioning Ireland, explains.

Building upwards within a city is often positioned as a quick solution to solving the ongoing housing crisis.

Particularly in cities like Dublin, which has often been referred to as a 'low-rise city', questions are asked about whether the most is being made of the space available.

With the Minister for Housing, Planning and Local Government, Eoghan Murphy, calling on councils to lift the maximum height restrictions and actively pursue taller buildings, especially in main city centres, there's an opportunity for construction professionals to utilise the new innovations available to ensure a complete, efficient workflow, on tall buildings.

At Topcon, with the introduction of the new GTL-1000, we've added the missing piece of the puzzle to ensure an efficient workflow that can fast-track the build of tall structures.

The innovative GTL-1000 combines a traditional robotic total station with a high-quality laser scanner without compromising on performance and accuracy.

It is already transforming entire on-site workflows by reducing a typical scan and analysis task down to just a few hours.

With just three clicks and in less than two minutes, it can provide a complete, locally registered scan of an area, making it one of the easiest-to-use laser scanners available in the market.

Fine tuning Balfour Beatty's workflow

Topcon Positioning Group approached Balfour Beatty to assist in improving its verification processes with a more effective and efficient vertical construction workflow for a project in Surrey, England.

Balfour Beatty's team, already proficient with verification technology and methods, found the usual process of scanning with costly specialist contractors coming to site, followed by waiting times for data to be shared and then analysed, didn't meet efficiency and productivity marks.

The business had already started investigating new technology and software to improve the process when the Topcon GTL-1000 became the jigsaw piece that completed a fluid and effective workflow.

Guy Murphy, site engineer at Balfour Beatty, said: "We've done traditional verification on projects for a long time, but previously there haven't been the tools available for us to make this a quick and simple process.

"With Topcon's new GTL-1000 feeding into its data processing tech, suddenly there's a link between a decent, quick and effective scanning tool and an equally quick software environment for us to verify in near real-time.

"The GTL-1000 has enabled us to verify the project at any stage we wanted as it cuts the scan to verification process time dramatically.

"With the kit being dual-purpose, it fits into a site engineers' daily work so it allows us to take on more capabilities without the need for thousands of pounds to be spent on scanning teams. It's so simple to use and I haven't needed any lengthy training courses to become proficient."

Nick Salmons, Balfour Beatty's principal laser scanning surveyor, added: "At Balfour Beatty, we are dedicated to driving innovative new working practices across our business as part of our '25 per cent by 2025' initiative.

"The new Topcon robotic scanning solution will increase productivity on site by accelerating the construction process and identifying design challenges more efficiently than traditional methods.

"We are delighted to have collaborated with Topcon over the last 12 months to trial this new tool, which will significantly benefit the industry as a whole; reducing cost and program duration, for both clients and contractors alike."

For more information visit: www.topconpositioning.com or www.topconpositioning.ie

Leeson Street Kiosk

LOCATION: Dublin 2

COMPANY: P Mac Ltd

COST: €60,000



Dublin City Council enlisted the help of P Mac Ltd to restore the complete façade of the iconic Leeson Street Kiosk, at the junction of Leeson Street and Adelaide Road in Dublin city centre.

The brief was to repair all of the remaining fabric and reinstate the façade's lost features.

The building has an interesting history. It was designed by Michael Moynihan in 1929 as a water pressure station, public toilets and kiosk, and later operated as a café until 2017.

The exterior of the building is constructed from brick, granite and concrete with terracotta and concrete detailing.

Cracks and open joints were visible on all four facades.

Initial investigative works included hammer testing to identify the presence of any loose or de-bonded material.

The parapet, doorways and other areas were also tested with a cover meter to identify the presence of concealed steel or metals.

The building had been repointed in parts in the past with a grey Portland Cement mortar, which needed to be replaced.

The textured bricks, concrete parapet and granite plinth were cleaned using the DOFF system.

Any persistent carbon staining was removed using targeted chemical clean and a degreasant on persistent granite staining.

Works carried out included:

- Matching salvaged bricks used to rebuild damaged brick details around the windows
- Iconic canopy restored conserving the original frame, which was covered and strengthened with rheinzink metal in a throw-back to the art deco origins of the building
- Removal of all rain water goods, which were restored and refitted in the original cast iron
- All doors and window frames replaced with new hardwood to replicate the original

Attention to detail

The jewel in the crown of this project was the restoration of the Dublin crest on the parapet wall - the detail of which had been lost over the years.

Speaking about the intricacies of the pointing work in general, P Mac project leader Peter McNamara said: "Extreme care had to be taken to ensure joint widths were not increased. Raking out was carried out by careful scraping and picking rather than hacking or grinding. Missing joints were repointed using replicate mortar to the original weather struck technique."

He added: "Corroded steel elements in the concrete parapet, cornice and door frames were also removed and reinforced with steel where possible. We cast moulds on site from the remaining intact decorative details and used these to re-produce the decorative concrete detail on the parapet and door surrounds."



Leopardstown Racecourse

LOCATION: Dublin 18

COMPANY: Duggan Brothers (Contractors) Ltd

COST: €16million

This high-profile sporting venue project is the work of Duggan Brothers (Contractors) Ltd.

The Co. Tipperary company are the main contractor on Phase 3 & 4 of the Leopardstown Racecourse Development.

Works, over 3,853 sq m, involve the reorganisation and upgrade of existing facilities and the construction of new facilities, while the racecourse remains operational.

Duggan Brothers previously completed an earlier phase of the Leopardstown development in 2015.

Working with them on this phase of the project are architects A&D Wejchert & Partners, civil/structural engineer Clifton Scannell Emerson & Associates, services engineer Axis Eng Consulting Engineers and quantity surveyor Seamus Monahan & Partners.

Planned works include a new racing hall and upgraded street area, a new museum bar and upgrades to the Grandstand.

The saddling stalls will also be improved along with a children's play area, prize winners podium, pre-parade ring, a new pavilion and weigh room building.



Letterkenny Regional Water Supply Scheme – Contract No.3

LOCATION: Co. Donegal

COMPANY: MEIC Ltd (Mota Engil Ireland Construction Limited)

COST: €10.8million

Working across some of Donegal's busiest roads was just one of the challenges faced by MEIC Ltd while working on the Letterkenny RWSS Trunk Mains Scheme.

The Galway firm was responsible for installing around

19km of new trunk main and constructing two new pumping stations for Letterkenny town and its surrounding areas to provide clean and safe drinking water.

The work, undertaken at night to minimise disruption, included a trunk main – approximately 12,216m – from Veagh to Letterkenny.

A 50-metre long section of barrier pipe west of the Dry Arch roundabout in Letterkenny was also installed.

Works, including open cut trench and directional drilling to suit the local ecology, were programmed to cause as little disruption as possible during different events, such as the Donegal Rally that takes place in the middle of the summer months.

Local contractors and suppliers were also used, providing much needed employment in the area.

February 2020 was the original completion date, but with current progress and reasonable weather MEIC anticipates finishing the installation of pipes and construction of pumping stations by the end of 2019.

Key executives on this project for client, Irish Water are Tom O'Connor and Ronan Butler.



LinkedIn EMEA HQ

LOCATION: Dublin 2

COMPANY: Walls Construction

COST: €60million

LinkedIn's EMEA Headquarters was one of those rare projects where the passion, ability, and commitment of those involved come together.

This facility has had every aspect of the building's design tailored to embody and celebrate LinkedIn's diverse culture.

Architects, RKD, were given an extensive brief and visited six of LinkedIn's existing facilities before delivering the finalised design, which focuses on wellbeing, collaboration, open plan and break-out work spaces.

The development consists of a six storey office building over a single basement with an overall floor area, including the basement, of 17,300 sq m. The project completed in March 2017 after around 100 calendar weeks - five months ahead of schedule.

The superstructure of the building is reinforced concrete with exposed fair faced concrete columns, walls and ceilings.

The main façade comprises of a unitised glazing system with feature stone band and internal façade control blinds.

A large roof-light with automated vents was also installed over the atrium space.





Mac DubHub

LOCATION: Dublin 16

COMPANY: mac-group

COST: n/a

When mac decided to move to a larger space, they chose a location that was aligned with the idea of a thriving and sustainable Dublin.

The company's new 4,500 sq ft office on the fourth floor of Rockfield South, Dundrum is beside the Balally Luas stop to allow easy access to public transport.

Daylight floods the space, which also has spectacular views of the Dublin Mountains.

Project works included exposed M&E services throughout the space, with timber, fabric and aluminium ceiling finishes to complement bespoke joinery details in the kitchen and office areas.

All offices are equipped with the latest AV systems including screen beam connectivity for presentations.

The Media Lab was installed with interactive mediascape desks as well as a 75" Avocar interactive touch screen and VR system for BIM presentations.

Refurbishment was also carried out on the ground floor reception, tenant area and level four terrace.

Justin Treacy from RKD Architects and mac-group's Alan O'Neill were key executives on the project.



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Commercial feature by Downey Planning & Architecture

Challenges and changes to the planning system

We are faced with a significant housing supply crisis, partly led by rhetoric spread by the media and economists using misleading figures taken from the recession period and headline grabbing quotes.

'Ghost Estates', '120,000 unfinished units' and 'Complete oversupply of housing' among them.

The planning system has turned 180 degrees since then, with undersupply and a lack of affordability.

Changes have been made to the planning system - some good, some downright bad - but all attempting to address the housing crisis and provide better, more sustainable communities.

The most positive recent change is new national planning guidelines that support increased densities and building heights in urban areas, as well as changes to apartment guidelines.

This is a move away from a

one-size-fits-all approach and towards better urban design and planning.

It also puts apartments to the fore at the expense of inefficient semi-detached houses.

Minimum densities have to exceed 35-50 units per hectares in most cases around Dublin and on transport links. We are achieving up to 200 units per hectare.

The new SHD process has also helped to provide a more consistent approach to decision-making and improved planning timelines.

These changes also facilitate options such as build-to-rent, co-living and student accommodation.

However, these positive changes have also brought about their own challenges, such as an increase in people having to rent.

In Dublin 37 per cent of the market is under a Private Rented Scheme and this is expected to

increase to 50 per cent.

This is because the Government is encouraging higher density but these are only viable when a BTR fund front loads the purchase book of taking 100 per cent in addition to other market issues.

Yet this is in keeping with the European model as not everyone wants the restriction of a mortgage.

The SHD process has sought to speed up the planning process and also provide for a more consistent approach to decision-making. This should be welcomed.

The lack of general awareness and acceptance about the need to increase our densities and height in urban centres is wrong and needs to be challenged, where appropriate.

In planning, height is still an issue in areas like Dublin 1, 2 and 4 - mainly because we have a legacy of two storey houses and, in

some cases, single storey houses inside the canals.

These have to go for the most part, aside from the protected structures, in order to create a dynamic, sustainable city.

We need a frank and honest discussion - as well as better education - around this.

Whilst positive changes have been made, such as the SHD process, we need to streamline the process that is currently being reviewed by the Minister.

While it can be complicated and labour intensive, it can be done.

Planning Consultant John Downey is COO of Downey Planning & Architecture, a multidisciplinary firm who can assist in the procurement of all issues of design and development from planning to onsite delivery.

Contact info@dpaa.ie or 01 2530220.

Mary Elmes Bridge

LOCATION: Cork City

COMPANY: Keating

COST: €3.64million



Courtesy of Cork City Council



Spanning 67m, the Mary Elmes Bridge is Cork's newest river crossing.

Installed in the city centre to connect St. Patrick's Quay and Merchant's Quay, the 165 tonne pedestrian and cycle bridge opened in July 2019.

Two cranes, 500 and 750 tonnes, operated by East Cork Crane Hire Ltd were used for the installation of the bridge, which was sailed by barge from Cobh's Shipping Yard to the city centre in nine sections.

It travelled up the river under the existing Michael Collins and Brian Boru Bridges, pulled by two tugboats.

Its superstructure was

then placed on newly-built supports on the quays in the north channel of the River Lee.

Among its features are flood protection barriers, which have been integrated into the parapet walls so that in the event of high water levels, the bridge ends can be closed.

LED lights have been fitted to the handrails, while below deck lighting has also been used to highlight the spine beam.

Keating undertook traffic management, underground services, footpath and carriageway reconstruction as part of this project.

New traffic signal and public lighting were also

installed as part of the works.

The bridge is named after aid worker Mary Elmes - the Irish Oskar Schindler.

Cork-born, she helped over 200 Jewish children escape France and the threat of concentration camps during WWII.

Fabricated by engineering company Thompsons of Carlow, the bridge is expected to be used by up to 11,000 people daily between the Victorian Quarter and city centre.

Cork's Lord Mayor, Cllr Mick Finn said: "This new bridge is one of the key elements in a plan to promote

and develop sustainable transport options such as

cycling and walking in and around the city."

Cork's river crossing in numbers:

9 - The number of sections the superstructure was subdivided into for ease of construction and transport

1.6 to 2 - The varying overall spine beam depth in metres

20 - 50mm - The varying steel plate thicknesses of the spine beams

24 - Tonnes of steel in each of the two buttresses

67 - The bridge's clear span in metres

148 - Cubic metres of concrete in each of the two buttresses

165 - Tonnes of steel plate in the superstructure

Mountpark Logistics

LOCATION: Dublin 22

COMPANY: mac-group

COST: €25million

Mountpark Baldonnell is the largest speculative logistics development currently under construction in Ireland.

It takes up approximately 13 acres of a 35 acre-site in the original Baldonnell Business Park, which was developed by SAIC in the late 1990s.

Phase one involved the design and build of Unit A, a single-storey warehouse distribution unit, and preparation of the building plateau levels for Phase 2.

The building is a structural steel double portal frame design, founded on reinforced pad foundations on lime and cement stabilised ground.

Following the success of Phase 1 mac were also awarded the fit-out of Unit A by the new client moving into the building, where external works included general hard-standing, car parking, landscaping, mains services and drainage.

Unit A was awarded a Gold Considerate Constructors Scheme 2019 National Site Award and was a finalist in the Irish Construction Excellence Awards 2019.

The site was also audited twice by the Considerate Construction Scheme inspector, landing in the top five



per cent from over 10,000 visits made in the last year in Ireland and the UK. Project manager was mac-group's Gary O'Sullivan, alongside Projex Building Solutions, JSA Architects and Punch Consulting.

N7 Nenagh to Limerick High Quality Dual Carriageway

LOCATION: Limerick & Tipperary

COMPANY: MEIC Ltd (Mota Engil Ireland Construction Limited)

COST: €211.8million

Creating four interchanges and building 29 new bridges are just some of the elements of this impressive road improvement by MEIC Ltd.

The project involves a 27.8km high quality dual carriageway designed to motorway standard from Limerick South Ring Road to the Nenagh Bypass as well as upgrading the Nenagh Bypass to dual carriageway.

The scheme widening five existing bridges, one viaduct as well as drainage culverts and other ancillary structures.

There were also four interchanges (Newport, Birdhill, Carrigatogher and Thurles Road) and local road realignments. There were a number of major challenges to overcome.

These included crossing the Annaholty Bog, which was designed and constructed through ground improvements techniques and a piled embankment.

The 120m Kilmastulla Viaduct was also executed with 40m spans over an environmentally sensitive area.



National Forensic Mental Health Scheme

LOCATION: Portrane, North County Dublin

COMPANY: OHL Ireland

COST: Currently €127million



The National Forensic Mental Health Service (NFMHS) is a new state-of-the-art mental health hospital located in Portrane, North County Dublin.

Covering a gross floor area of 24,000 sq m, the new hospital will accommodate 170 patient beds and includes spaces related to energy production systems, maintenance and horticulture.

The NFMHS will have 10 hospital buildings, a primary healthcare and therapy centre and administrative complex.

Surrounded by a 2km long, 5.2m high safety perimeter fence, it has been designed to provide high and medium security services.

The Health Service Executive awarded the project to a 50-50 joint venture formed by Dublin-based firm OHL and JJ Rhatigan in 2016.

Works commenced on site in 2017.

The new development will replace the Central Mental Hospital complex at Dundrum.

At the time of signing the

contract, then Taoiseach, Enda Kenny said: "The new complex will position Ireland's forensic mental health services as world leaders in best clinical practice."

State-of-the-art systems include thermal CCTV cameras as well as NPR's asset tracking and staff monitoring.

Key executives on the project include OHL Ireland Managing Director Alberto García, Project Director Javier Huertas, Senior Project Manager Stephen McCormack and Contracts Manager Sean Boyle.

NFMHS in numbers

600,000 bricks

40,000m² of precast concrete

30,000m² of in-situ concrete

25,000m² of paving and soft landscaping

8,600 lighting fixtures

1,300 internal high security doors

530km of cabling

240 external high security doors

25 km of copper pipework

13 hectares



No 8 Hanover Quay

LOCATION: Dublin 2

COMPANY: John Sisk & Son (Holdings) Ltd

COST: €46.5million

Dubbed 'The Reflector', No 8 Hanover Quay is a landmark mixed-use development, recently awarded LEED Gold certification. It was nominated for the Irish Concrete Society Awards 2019 Commercial Building and a bronze award-winner at the recent Considerate Constructors Scheme Awards in the UK. Dublin company John Sisk & Son, led by CEO Steve Bowcott, were responsible for the demolition of existing structures on site and construction of this substantial building.

It comprises of six storeys - including one set-back - over basement offices with a gross floor area of around 13,518 sq m.

A further seven storeys over basement residential element also accommodates 40 homes

ranging from one to three bedroom units.

There is parking for 74 cars, space for 175 bicycles and plant areas at basement level, which is accessed from Green Street East.

Key designs include the anodized bronze panelling and installation on the main south façade.

A number of on-site works were implemented.

Residential staircores are a key feature of the façade and a considerable amount of design work went into ensuring the specification was achieved successfully. While sample panelling mock-ups were developed, allowing the design to be altered as needed to provide the perfect finish.

O'Reilly Concrete also developed a precast solution to the in-situ

design of the residential block on site, to benefit both health & safety and logistics.

This was a particularly challenging element to the build and required co-ordination between O'Reilly's technical engineering department and overall project structural engineers Arup. To help speed up works on the commercial block and reduce safety risks, Arup installed telescopic connectors into the main half landings on the project.

This meant the half landings could be installed as precast units.

Time-saving modular wiring systems were also used on-site by Winthrop Electrical.





Nuritas HQ

LOCATION: Dublin 2

COMPANY: Ardmac

COST: n/a

Finding better solutions to workspace challenges has been a defining characteristic of international construction specialists Ardmac over the last four decades.

Its prowess in this area can be seen here, in its work for Nuritas - a pioneering Biotech start-up firm that uses artificial intelligence and genomics to unlock the secrets to better health. Having put the refurbishment and fit of its new headquarters out for tender, Ardmac was selected to complete works in Dawson Street's Joshua House, a five-storey over basement building adjacent Dublin's Mansion House.

Overcoming logistical challenges - such as crane lifts and delivery off-loading from the adjacent St Stephen's Green - while maintaining the status quo for its neighbours during construction were key to

the success of this 16,000 sq ft project.

Maintaining the continuity of existing ground floor restaurant The Greenhouse during the busy Christmas period was also critical, while road crossings were introduced across the Luas line to allow for continued access during the 12-week build.

Comprising of office and laboratory spaces for research and development, works included a townhall styled canteen, DAC, a new reception area, open plan and management offices alongside breakout spaces, management offices and meetings rooms.

New high specification laboratories were also introduced on the first floor with extensive construction works completed to include new chillers, plant and liquid nitrogen cages in the basement.





LEGAL MINDS: Philip Lee's Kerri Crossen (left) and Patrick Kane

Buyer beware?

How to avoid price shocks on public contracts

The Irish public sector spent €12 billion on goods, services and works last year according to the Office of Government Procurement. Competition can be fierce amongst companies bidding for public contracts - one win could open lucrative opportunities for a successful bidder.

However, pricing a bid too aggressively can be a double-edged sword. The private sector may bid an unsustainable price, whilst the public sector may be forced to increase budgets for a particular contract as their contractor looks to exploit any possible route to make a profit.

We have identified five steps for public bodies to follow to limit price shocks at a later stage.

FIRST - planning is everything. Speak with potential bidders before your tender process to understand what the market price is and their capabilities.

SECOND - provide as much relevant information as is reasonably possible during your tender and ensure the risks transferred to the contractor are appropriate. Bidders will 'price for risk' - a good tender process allows bidders to quantify risk and provide greater price certainty.

THIRD - ensure your specification is accurate before going out to tender. A vague or incomplete specification will require revision during the life of the contract inevitably resulting in a price increase - and the public body's ability to amend the contract is limited by public procurement legislation.

FOURTH - don't just look at the price bid today, consider the life-cycle costs. Public bodies are entitled to factor in these life-cycle costs as part of their tender evaluations provided that they are upfront and non-discriminatory in determining these costs. This could result in better value for money for the taxpayer in the long run.

FINALLY - check for abnormally low tenders. If a public body receives a bid that appears to be very aggressive or 'abnormally low', it should ask the bidder to explain its pricing. If the public body is not satisfied with the bidder's explanation it can, although it is normally not required to, exclude the bidder.

Whether a bid is 'abnormally low' is not an exact science, and public bodies should look at the both the quality and price of a bid to determine whether it stacks up.

When it comes to procurement, there are no absolutes and hindsight is 20/20. Public tender processes are under a spotlight and cost overruns may be a fact of life. However, taking these steps can help avoid unnecessary pitfalls in the long run.

For more information contact Kerri Crossen, Partner and Patrick Kane, Associate from the Construction and Procurement Law Team at Philip Lee.

Visit www.philiplee.ie to get in touch

One South County

LOCATION: Dublin 18

COMPANY: Colleen Construction

COST: €30million

This eye-catching 13,875 sq m five-storey headquarter office development in Leopardstown is a visual triumph both outside and in. From its glorious reflective curved façade on the north western side of the building to a suspended meeting room pod, spanning on an east to west axis at fourth floor level traversing the north end of the central atrium.

The perimeter of the building, the result of significant co-ordination between the glazers and RC Frame contractor, is predominantly glass with the main external façade manufactured from Schuco FWS 50 Capped and Schuco FW 50 SG Curtain Wall Glazing with PPC aluminium systems.

Colleen Construction were adept at working around the constraints of the surrounding main roads and protected woodlands to create this sustainable LEED Gold accredited building.

The excavation of the basement was also demanding due to existing white granite.

One South County has a green roof system to attenuate and store rainwater at up to 44 litres per sq m. This non-penetrating fall prevention system innovatively utilises the roof mass to stay in place.

Each floor consists of two 18m floorplates separated by a central atrium. The central atrium, spanning 12.5m wide, is covered by a sloped glass roof, the construction of which required a tiered bird cage scaffold.

The atrium's north and south elevation have oval structural steel beams to support the spider planar glazing system.

The design of the build features curves to the west side of the structure, which required radius shutters to complete the 4.2m basement wall and slab edges on the 300mm thick suspended floor flat slabs.

Internally, the main atrium is tiled with underfloor heating. The floor plates were completed to CAT A status with raised access floors and floor boxes wired for power, suspended metal frame ceilings and recessed CAT 2 lighting.

Colleen Construction is led by Chairman Neil Colleen and Managing Director Tommy Drumm.





Project Kells

LOCATION: Dublin 2

COMPANY: John Sisk & Son (Holdings) Ltd

COST: €60million

Project Kells is located on one of the busiest pedestrian areas in Dublin and as a result there have been significant challenges in protecting and managing pedestrian flow throughout the project.

Demolition works on the existing four to six storey buildings have commenced

to make way for a large mixed-use office and retail development with a site footprint of circa 3,650 sq m. Construction will include a new double basement and seven story building consisting of 8,000 sq m of retail space and 12,000 sq m of office space.

The site itself is surrounded by distinctive features such as the historic Dingle Whiskey building, built in the 1600s.

The McDonalds building, live Luas lines, Dawson Street pedestrian zone and national monument St Patrick's Well are also neighbouring logistical elements.

Among the ideas Sisk have proposed to overcome these issues include steel platforms to take deliveries on site and



temporarily modifying the main structure to enable truck movement and vertical lifting during superstructure works.

BIM will be used extensively to help with these challenges.

Sisk are also implementing real time survey and vibration monitoring to check for any ground movement that would impact on the Luas operations, St. Patricks Well or the neighbouring protected structures and premises.

PTSB 70 Grafton Street

LOCATION: Dublin 2

COMPANY: Nevin Construction

COST: €1.2million



This project by Waterford company Nevin Construction involved the extensive refurbishment and fit out of the existing Permanent TSB Branch at 70 Grafton Street.

The former branch was completely remodelled to create a modern, light-filled, customer focused banking space.

The overall design and build of the project also led to it being nominated as a finalist for Retail Project of the Year at the Irish Construction Industry Awards 2019.

Unlike other banks, full height windows

were installed to give uninterrupted views of the interior.

Toughened laminated 25-mil thick glass was installed to the whole of the ground floor, with each panel weighing 400kg.

A complete strip out of the four-storey building was required, each floor circa 12,000 sq ft, which included major structural alterations. A new lift was also installed.

A full refit of all mechanical and electrical services as well as all new state-of-the-art glazing systems and high end refit of all floors was also carried out.

Self-service banking machines are the focus in the double height entrance vestibule, while a cylindrical consultation pod hangs mid space over the customer service desk.

Two-tier consultation booths are located at the rear with cashiers and a range of other consultation spaces are upstairs.

Key executives were Managing Director Bernard Nevin and Commercial Director Paírck Taheny.

Right on time

Despite being located on Ireland's busiest retail street, with restricted site access during peak hours, the project was delivered, safely and to the highest quality standards, within the required 16-week timeframe.





River House Belfast

LOCATION: Belfast City

COMPANY: mac-group

COST: £9million

Voted best Commercial Building at the 2019 RICS NI Awards, River House Belfast is one of the largest city centre commercial refurbishment projects to be undertaken in Belfast. This 14-storey office building in the city's Cathedral Quarter also offers retail units on ground floor level.

Project works, completed by mac's Newry team to CAT A standard, included the removal of the existing façade, which was replaced with a new curtain walling system.

The building, which was refaced in the early 90s due to bomb damage, was stripped back to grey box with major structural alterations made to the entrance and reception area to create a double height space.

Refurbishment work on the 0.64 acre site owned by Castleforge Partners began in October 2016 and was completed by October 2018.

"Ronan McGrath managed the project with professionalism and diligence throughout and this helped achieve the high quality modern office building that we have today," says Castleforge Partners Director Martin Claisse.

Floors one to five are now being used as co-working space by Clockwise.

The 13th and 14th floors are leased to TLT with SmashFly Technologies set to occupy the 11th floor.

Musgrave Retail Partners NI has agreed to lease the largest ground floor retail unit as a Centra convenience store.



Building history

Built in the late 1960s, River House Belfast was offered for sale by Friends Provident in 1999, it later sold for just under £7million. It was put on the market again in 2015 for offers over £4.25million. It was acquired by Mercer Real Estate Partners (later renamed Castleforge Partners) in 2016.

Roe & Co Distillery and Visitor Experience

LOCATION: Dublin 8

COMPANY: Flynn

COST: n/a

Lonely Planet named the new Roe & Co Distillery one of the 10 best new openings for travellers in 2019.

Located within the iconic Guinness Power House at St James's Gate, it is part of the regeneration of The Liberties.

The overriding design concept was to breathe life back into the building and let it shine rather than adding new architectural features.

Another key concept was to celebrate the new primary function of the building - a working distillery for Diageo's whiskey brand - Roe & Co.

The internal spaces needed to be able to allow the visitor to experience the original Power House structure, while simultaneously exploring the process of whiskey manufacture & blending, culminating in a spectacular

environment where the finished product is tasted.

With Flynn as the main contractor, the former generator hall was transformed into a new world-class still house, complete with three substantial copper pot stills and multiple timber clad washback vessels.

Visibility of the still house and the distillation process was central to the design.

A large glazed screen was added to the front façade and internally the space is now traversed by an elegant curved and glazed viewing bridge, surrounded by the new public spaces all of which allows views into the process area.

Throughout the visitor experience there are workshop and exhibition spaces where one can learn the arts of whiskey blending and cocktail mixing.

Innovation

Guinness have a history of repurposing their buildings for new uses. The central glazed screen provides a dramatic shop window into the triple height still house space.

The main public space - the boiler house bar is effectively a box constructed within the original boiler house - a space 30 metres in height. The bar offers views into the working still house and the disused boiler house - where obsolete plant from the 1950s sits within the corroded steel structure and a criss-cross of rusty gantries, staircases and ladders form an illuminated stage set of industry from the past.

Challenges

Notwithstanding the challenges, this unique project was completed in time for its launch to the public in June 2019. Water ingress over a

period of several decades had led to the decay of the building's structure and fabric in many areas.

One of the first priorities was to replace the roof finishes in their entirety - at times working around large items of defunct plant and obsolete structures. Extensive asbestos removal proved to be time-consuming and laborious.

A wide range of stakeholders needed to feed into the mix - all experts in their own fields with each of them looking at the project through a different lens. This sometimes necessitated a sudden concerted re-focus of labour over a very tight timeframe on process-related works which sometimes had a knock-on impact on other elements of the overall project programme.





Sacred Heart Church, The Folly

LOCATION: Waterford City

COMPANY: Sika Ireland Ltd

COST: €1.22million

An iconic landmark building in Waterford City has been preserved for the future following a complete refurbishment by Sika Ireland.

Sacred Heart Church, a protected structure, was a catalyst for the construction of concrete churches when it was built in the 1970s.

The roof consists of 77 individual elements in total, massive structural concrete, tapered beams, and other tiered flat-roof materials interlaced with Dalle de Verre stained glass panels.

Over time, the combination of these elements resulted in a wide variety of defects. The building remained in complete operation, including daily ceremonies, while the interior and exterior works were being carried out.

Preliminary inspections and a visual survey were carried out throughout using a drone as it was not possible to scaffold the building.

This led to the repair of the existing spalling concrete, reinstallation of the Dalle de Verre panels and the building being entirely re-roofed. The internal concrete structure was also repainted with an anti-carbonation paint.

Lead architect CJ Falconer & Associates worked with roofing specialists PJ Quinn Limited and Sika Sarnafil, utilising Sika's single-ply roofing system and expert technical support.

Sika's G-410 bonded membrane and S-327 Patina Green mechanically fastened membrane systems provided a protective finish.

The entire inside of the church, and the fascia area outside, were painted with a double coat of Sika anti-carbonation concrete protection to prevent corrosion of the steel reinforcement.



Did you know?

Roe & Co is named in honour of George Roe, the world-famous whiskey maker who helped build the 'golden era' of Irish whiskey in the 19th century. His 17 acre distillery was once Ireland's largest distillery and was located on an adjacent site on Thomas Street. The story of George Roe, his family and their famous whiskeys, had been largely lost to history since the distillery closed its gates in 1926, and all that remains is the distillery windmill tower and a pear tree that flowers to this day. This pear tree dates from 1850 and is the oldest fruit bearing tree in Ireland. However, the pears are too sour to go into the drinks.





Skill building

Meeting the evolving needs of the construction industry

At the National Construction Training Centre, Mount Lucas, non-craft worker training and certification of new entrants and experienced workers in the National Construction Skills Certificate (CSCS) is provided to the highest possible standards.

The centre also offers construction related traineeships targeted to address skills gaps within the industry. In addition, Mount Lucas administers both the CITB UK changeover programme for Irish CSCS cards to UK CPCs cards and the UK Health Safety & Environmental (HSE) Test, the compulsory pre-clearance test that enables entry to work on UK sites.

By working with industry stakeholders, the National Construction Training Centre at Mount Lucas has devised a set of easily adaptable, non-craft worker training programmes to meet evolving Industry needs.

All services provided at Mount Lucas are funded and supported by SOLAS with training provision delivered to respond to industry, and concurrently meet the specific needs of people who are unemployed, under-employed, or are in employment but requiring new or enhanced skills.

According to Centre Manager John Kelly, the public sector is an important market for Mount Lucas.

He explains: "Mount Lucas maintains a collaborative relationship with the Construction Industry Federation and other bodies that guides the training provision to meet developing gaps within the industry.

"During 2016, for instance, our Employment Skills for Construction (Formwork) Programme was developed in partnership with the SOLAS, Department of Employment Affairs and Social Protection (DEASP), CIF, local construction employers and City & Guilds to train construction workers, as a specific need had arisen within the construction sector.

"The facilities at Mount Lucas include a 33-acre site complete with a fully simulated work environment that replicates actual building sites. We have over 15 acres assigned for machinery training, we also have a 700m² construction hall that is used for small machine training and is currently in use as a workshop for the traineeships.

"All areas in Mount Lucas are set out so participants are trained in construction skills in real work environments. And like any building site, if participants arrive to site without appropriate personal protection equipment, they are not allowed on site."

Mount Lucas is both an accredited City & Guilds and QQI centre and delivers bespoke construction related training. It has recently expanded the fleet enabling the centre to increase the training provision for both new entrants and experienced operators as part of the CSCS programmes.

As part of the fleet, a Saez Tower Crane has been sourced with the added features of both a hoist and a Jumbo training cab allowing both the instructor and the trainee to work alongside each other enhancing the training experience.

LOETB are part of a National Consortium Steering Group that are developing a scaffolding apprenticeship programme.

The Scaffolding Craft Apprenticeship will lead to a two-year apprenticeship at Level 5 on the National Framework of Qualifications.

It will provide comprehensive skills and understanding of the mechanics of scaffold, the different forces acting on scaffold structures, and incorporate specialist skills to ensure that apprentices are fully competent.

The curriculum, currently under development, was submitted to QQI in June 2019 and subject to validation the apprenticeship scheme is scheduled to commence in January 2020, with the first group of scaffolders qualifying in 2021.

For their services to education in the construction Industry Mount Lucas have been awarded this year's Public Sector Magazine Setting Standards Award.



Sean Foster Apartment Development

LOCATION: Dublin 7

COMPANY: Duggan Brothers (Contractors) Ltd

COST: €10million

History is at the heart of this central Dublin project from Duggan Brothers, award-winning building contractors based in Templemore, Co. Tipperary.

Works are now underway on the Sean Foster Apartment Development on North Kings Street.

The new development, in association with Newenham Mulligan Architects, has been named after Sean Foster - the first child killed during the 1916 Easter Rising.

Aged just two years, the infant was killed by a gunshot to the head as he was lying in his pram.

North King Street was the centre of heavy fighting

during the rebellion, which led to the death of 16 civilians on the street - nine of which were killed on the site of the new development.

The scheme's design ensured careful consideration was given to a range of solutions to meet Nearly Zero Energy Buildings (NZEB) energy targets.

A total of 30 apartments will feature in this six-storey NZEB compliant social housing project - seven one-bedroom, 18 two-bedroom, three two-bedroom duplexes and two three-bedroom apartments.



Each apartment has dual aspect and a private balcony. Four will have triple aspect.

A shared private courtyard will be located along the site's southern boundary.



Slane Castle Distillery

LOCATION: Co. Meath

COMPANY: Kirby Group Engineering

COST: €11million

Limerick-based company Kirby was responsible for the installation and commissioning of the mechanical and electrical services within Slane Castle's distillery, co-products building and visitors' centre. Part of a €44million development with investment from global spirits company Brown Forman, the distillery attracts tens of thousands of visitors annually.

"The mechanical and electrical services were delivered and installed to the highest standards, safely, on time and within budget," says Kirby, a firm

led by Group Managing Director Jimmy Kirby and Group Operations Director Mark Flanagan.

As with all of its projects, Kirby used the expertise of its in-house Building Information Modelling (BIM) team to ensure the successful integration of all design elements across services and a high-quality installation.

Culture and heritage

As well as hosting world famous rock concerts, Slane Castle has been home to the Conyngham family since 1703.

Your vision, our duty

An Irish contractor with reach across Europe, Mercury builds and manages complex engineering projects that reimagine how people work and live in the built environment.

“We believe that real innovation happens if you’re willing to be brave,” says Mercury’s David Byrne.

“Our determination and sharp focus enable us to deliver leading edge construction solutions across a range of key sectors, taking our clients to new territories they never thought possible.”

With almost 2,000 staff and revenues in excess of €750million, Mercury is entering a new phase.

This year Mercury embarked on a rebrand project - their first in almost 50 years of business - with the official launch set for June 2019.

The company added the positioning line ‘YOUR VISION. OUR DUTY’ to reflect the values it has always stood for.

“This puts our clients at the heart of everything we do and positions Mercury as their strategic partner,” says David Byrne. “It also welcomes challenge and suggests that there are no limits or restrictions - success is the only result.”

Mercury is currently acting as the main contractor on several large-scale data centre construction projects across over 10 locations including Amsterdam, Frankfurt, the

UK, Ireland and the Nordics.

Within the Irish market, Mercury has also recently delivered multiple projects across a variety of sectors including healthcare, life sciences, building services and fire protection.

The company also recently launched a new division called Technical Support Services to provide highly specialised mechanical, electrical and ICT services to clients.

The labour shortage in Ireland is a challenge not only to Mercury but widely across the construction industry, suggests David Byrne.

“Eoin Vaughan, our CEO, firmly believes in the value of people within our business and has invested greatly in Mercury’s Graduate Programme, in on-site training for our trades people and in the overall professional development of Mercury’s junior and senior employees. We have also built a dedicated training centre for our trainees.”

Mercury has decided on three company values - being dynamic, being brave to achieve incredible things and making things happen.

“At Mercury, we’re completely unafraid of change because we understand its true potential,” says David Byrne. “No matter the client or sector, we always deliver. Success is the only option for us.”

Company culture at Mercury is rooted in its rigorous approach to health

and safety practices.

Over the last number of years, Mercury has focused not only on traditional construction safety but also emphasised mental wellbeing, health and fitness.

Initiatives have included Mercury giving car safety kits to all contractors on its projects, driving safety toolbox talks and guest speakers at its European sites.

“We’ve also recently started a huge focus on mental health and wellbeing, launching a wellness solution - which is an app for your phone - across the entire organisation including our trades,” explains David Byrne.

Technology, and utilising construction technology into all projects, is key for the team at Mercury, adds the director.

“Lean has always been something we strive for and our default position is if there’s an activity or a task that we’re going to perform for our client, we’re always trying to make it happen - better, faster or smarter.

“Our group strategy, Mercury 2021, was developed three and a half years ago to pave a clear pathway for the company to accomplish its set goals and targets.

“The document illustrates the steps we have set out to achieve measured growth and continued operational success over a five-year period.”

Women in Construction Week

Mercury feels it is imperative that as an industry, continued strides are made to make women feel welcome throughout all sectors.

“Mercury are leading the way here in making strides to both attract a high quality and diverse workforce and help to make the construction industry more female friendly,” explains David Byrne.

“As part of this, we’ve previously hosted Women in Construction Week led by our HR department.

“The focus of that was to highlight women as a valuable component of the construction industry.

“We recognise the achievements of women in our company and hope that they will inspire others to follow in their footsteps and encourage other female employees.”



Tallaght Stadium, Third Stand

LOCATION: Dublin 24
 COMPANY: ABM Design and Build Ltd
 COST: €2million

ABM were contracted by South Dublin County Council to deliver this project within a nine-month period.

This single tier spectator stand, including associated ancillary and welfare facilities, was designed using BIM technology and a 4D animation of the precast concrete structure installation.

Works included substructures, a precast concrete stand, tiered terraces, access stairs, vomitory walls, steel roof, structural glazing, all



seating and railings.

Delivered in October 2018, ABM Design and Build assembled an expert team of architects, engineers and construction workers to successfully complete this project. The single most important element of the project was the installation of the entire precast concrete structural frame over a six-week period.

A stand out building

Accommodating 2,170 people, the floor area of the stand's footprint is 1,140 sq m, with 400 sq m below for toilets and ancillary spaces. A 15 sq m TV Gantry is suspended from the roof.

ABM employed time-lapse camera recordings to monitor the progress of the installation of the precast frame on a daily basis.

This provided them with detailed minute-by-minute records of the installation rate and was a key tool to check delivery was on time and to establish milestone completions and sequential planning of the follow-on works.



Understanding the needs of construction firms

HBFI CEO Dara Deering on future plans to provide funding for residential development

HBFI's Background

Home Building Finance Ireland (HBFI) has been established to help increase the supply of new homes in the State, through the provision of finance to commercially viable residential property developments throughout Ireland.

It is a targeted measure and is one aspect of the multi-faceted approach the Government is taking to address the housing shortage.

HBFI has up to €750million made available from the Ireland Strategic Investment Fund, with an ability to raise further funds on the market should they be required. This translates into a capability to fund the delivery of up to 7,500 units over a five-year period.

The establishment of HBFI will ensure that commercial lending

is provided for viable projects.

HBFI has an experienced team of lenders and support staff with a deep understanding of the needs of construction firms and a track record in financing residential development ranging from smaller projects to much larger projects involving several hundred units.

Market Overview

Following the financial crisis, we are all acutely aware of its impact on the banking sector and the significantly reduced appetite amongst banks to fund property development.

This shortage of capital was a key driver in the establishment of HBFI.

While the construction sector has seen a dramatic recovery in recent years, it is clear that the availability of debt finance remains a problem for many developers that are

looking to deliver projects that are commercially viable.

HBFI wants to help make these projects happen. Our aim is to engage with borrowers efficiently and effectively and approve loans as quickly as possible, subject to meeting lending, risk and credit criteria that we have in place to meet the needs of developers while ensuring an appropriate level of protection for taxpayer money.

Approach to Lending

The primary objective of HBFI is to increase the funding available in the market to developers for viable residential developments.

While HBFI will adhere to appropriate controls to safeguard the funding committed, the team will seek to support developers through the application process.

In recommending a project

for approval to its Credit Committee, HBFI will examine and analyse a project across three main areas:

- The viability of the project
- The demand for the units
- The track record of the builder/developer

Application Process

All HBFI lending will be on commercial terms, with interest charged at market rates. The HBFI operational model ensures that there is a simplified application process with quick decision-making. The initial expression of interest can be submitted via the website.

We welcome further engagement and we can be contacted by telephone on 01 2384000.

Further information is available from the HBFI website - www.hbfi.ie

Thomas Burgh House

LOCATION: Dublin 8
COMPANY: JJ Rhatigan & Company
COST: €3.25million

This restoration project sees new life being breathed into a ruined church building.

St. Luke's Church is a protected structure and at the outset of the project was a roofless ruin.

A proposal was submitted to Dublin City Council on behalf of the St Luke's Partnership (Derek Tynan Architects and Carrig Conservation) for the retention and conservation of the original 17th century Huguenot Church and its adaption to office accommodation.

The building has now been renamed as Thomas Burgh House in honour of the original architect.

Certified heritage contractors JJ Rhatigan faced a number of unique challenges.

"Some of which were not obvious at first, which tends to be the case with substantial conservation projects."

The historic nature of the building limited the potential interventions to its fabric.

That said, it is heated and cooled using high-efficiency air-water heat pumps and variable refrigerant systems.

A building management system controls automatic windows and rooflights to provide natural cooling during summer months.

Energy-efficient LED lighting has also been



Award-winner

Thomas Burgh House was awarded Commercial under €10million Project of the Year 2019 at the Irish Construction Excellence Awards.

provided throughout the building, with PIR-control and absence detection to minimise energy wastage.

The new building contains office accommodation

across three storeys in a glass-clad space separated from the walls on three sides and open at the end bay.

The most exciting and

unique feature is where the first and second floors were fully suspended from the roof truss structure using an elaborate Macalloy type hanging system.



Trinity Business School

LOCATION: Dublin 2

COMPANY: JJ Rhatigan & Company

COST: €80million

Collaborative relationships helped deliver the new Trinity Business School, located on campus in Dublin city.

Approximately 12,000 sq m over seven storeys, it houses a 600-seater auditorium, lecture theatres, 'smart' classrooms with the latest digital technology, offices, an exhibition area and a rooftop conference room.

A feature helical staircase within the triangular atrium gives access to all of the upper floors and to the upper basement level where the main auditorium and the undergraduate 200 seat raked auditorium are located.

The collaborative approach taken with client Trinity College Dublin, Dublin City Council, Irish Rail and the project's design partners, subcontractors and suppliers, were key to its delivery. The city centre location was a significant challenge on this BIM level two project.

From the installation of 12 tonne beams within the 600-seater auditorium, involving meticulous traffic management, to the precision engineering required to fit the multi-storey helical staircase, all construction was carried out with relatively little disruption to the day-to-day campus life.

A significant civic benefit of the project, which had over 200 workers on site at the peak of construction, is the restoration and reuse of six three-storey terraced buildings on Pearse Street, dating from around 1825. Sustainability is at the heart of the new building.

500 sq m of photovoltaic panels were installed on the roof, which contribute to the electrical provision and offsetting 35 tonnes of carbon per year.

Water for toilets is provided by recycled rainwater.

A 70 sq m living wall is located on Pearse Street and comprises of seven different species of carefully selected plants.

Tyrconnell Bridge

LOCATION: Donegal Town

COMPANY: Keating

COST: €960,000

This impressive project by Keating required a dedicated and thoughtful approach to construction. The bridge, originally built in 1895 and officially re-opened in May 2019, was restored and reworked to allow for modern day use.

Known by locals as the Iron Bridge and the Green Bridge, Tyrconnell Bridge required scaffolding access upstream and downstream of the bridge to facilitate building and repointing of its masonry piers and abutments.

Sections of the bridge were dammed to facilitate placing missing stones below water level and repointing below the watermark.

Each of the piers also required stone numbering for taking down to allow for deck installation and rebuilt.

During construction a number of historical items - including a chisel and rat tail wrench - were discovered and donated to the Donegal County Museum for display.

Keating Implemented road closures and traffic management measures to facilitate the flow of traffic as works were carried out.

These included:

- The demolition of the existing bridge steel superstructure
- The cleaning and structural rebuilding and re-pointing with NHL5 lime mortar of the existing masonry
- Works to the existing substructure to allow the construction of the replacement steel and concrete composite bridge superstructure
- Construction of replica bridge parapets to match the existing steel riveted panels
- The temporary and permanent diversion of services and associated new ducting and chambers
- Bridge deck waterproofing
- Road, footpath, and substructure drainage and ducting works



VHI Scot's Church

LOCATION: Dublin 1

COMPANY: Collen Construction

COST: €18million

The expansion of VHI Healthcare offices plus a restoration and adaptive re-use of Scots Presbyterian Church on Dublin's Abbey Street embodies this captivating and intricate project.

The design brief was to provide a HQ environment consisting of a new office extension and refurbishment of existing offices of circa 97,500 sq ft.

The goal was to incorporate the existing church and lecture halls within a new contemporary three to seven storey diagrid exoskeleton office block with a unitised curtain wall envelope.

Scot's Church is a protected structure so the primary challenge was to respect and preserve its significant cultural, religious, historical and architectural heritage while also meeting the client's need for an iconic state of the art headquarters.

The biggest challenge for Collen's site team was access to work areas and storage of materials.

The site was restricted on three sides. The Luas runs along Abbey Street to the north, the Abbey Theatre is to the west and the VHI building to the east leaving work on the seven-storey building to be completed from Old Abbey Street lane with a single tower crane to lift 210 ground bearing piles, 500 tonnes of steel, seven in-situ concrete floors and 220 façade panels.



The most eye-catching aspect of the project is the 150-year-old church hall building preserved within the belly of the new contemporary office structure.

Collen project manager Alan Barnes won the overall CIOB Ireland Construction Manager of the Year Award 2019 for his work delivering this complex project.

When challenges lead to innovation

One of the most technically difficult aspects of the VHI Scot's Church build gave rise to an innovative construction sequence, which allowed for a faster build.

A scaffolding structure was devised and a sequence of erection/stripping allowed the team to construct the steel structure of the new building from a ground-bearing tube and fitting scaffolding.

This involved taking the entire roof off the existing building and allowing the scaffolding to rise from within the church hall itself.

Each piece of roof timber had to be methodically catalogued and stored off site, ensuring that when it would eventually be re-fitted, it would be identical to when it was removed.





Waterford Primary Care Centre

LOCATION: Waterford City

COMPANY: JJ Rhatigan & Company

COST: €15.3million

The Waterford Primary Care Centre is situated on the grounds of the existing St Otteran's Hospital, a live healthcare campus, in Waterford city.

The 24-month project was one of 14 PPCs delivered nationwide for the

Health Service Executive, of which Waterford is one of the largest.

The design and build project required the demolition of existing small buildings and the construction of a new 4,700 sq m building on a green field site incorporating a large central courtyard, tree orchard and a mental health garden.

The building facilitates physio, dental and GP

departments including x-ray facilities, occupational therapy, speech & language, mental health department and early intervention.

A variety of digital tools were used on the project including the Autodesk BIM 360 suite of software, a biometric security turnstile system and topcon robotic total station.

This state-of-the-art technology saved time and ensured efficient use of resources.

JJ Rhatigan, a heritage contractor, also had to maintain the structure of a protected brick chimney dating back to the late 19th century while working in proximity with deep excavations and existing foundations.

Seal of approval

The project won the Irish Construction Excellence Award for Healthcare/ Education, Project of the Year 2019.





National Construction Training Centre

Construction Skills Traineeship Course Duration: 6 Months

Health, Safety and Welfare in Construction, Principles of Building Construction Foundations, Skills training in formwork and Steel Fixing Slabs and Paths in Concrete, Work Placement.

Dry Lining Traineeship Course Duration 6 months

Health, safety and welfare in construction, Install partitions, Install suspended ceiling systems, Install wall linings and encasement systems Fix sheet materials(plasterboard) using direct bond method, Apply tape and jointing systems to plasterboard & Work Placement.

CSCS Programme (New Entrants and Experienced Operators)

- Site Dumper
- Articulated Dumper
- Telescopic Handler
- Remote Control/Self Erecting Crane
- Slinger Signaller
- Mini Digger
- 180° Excavator
- 360° Excavator
- Tower Crane

Changeover Programme

- Irish CSCS Card – UK CPCS Card
- Health Safety & Environment Test (UK equivalent to SOLAS Safe Pass Card)

Other Training Courses:

- Manual Handling
- Abrasive Wheels (Including Practical)
- MEWPS (Scissor Lift & Articulated Boom)
- Forklift Training (Counter Balance, Reach Truck and Electric Powered Pallet Truck)



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YOUR VISION, OUR DUTY.

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