MARCH 2026

# NSC

**City offices bank on steel**

First River Trent bridge for over 60 years

Digital hub for Doncaster

Steel boosts wellbeing in Caerphilly


MARCH 2026
Vol 34 No 3

# NSC

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Main contractor: McLaren Construction
Structural engineer: Robert Bird Group
Steelwork contractor: Bourne Steel
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# Animal spirits to overcome uncertainties?

Nick Barrett
Editor-in-Chief

The news on the economic front recently has seemed to have been mostly - at best - in the 'it could be worse' category. Threats to energy prices as a result of the Middle East hostilities have poured a further potential dampener on those 'animal spirits' that are so vital to giving funders and developers the confidence to proceed with investments.

But those spirits are still alive and not all is doom and gloom. Last month we saw silver linings among the current clouds, with reports that conditions were right for a surge in office construction in London, for example. One forecast was that there will be a shortfall of some 11 million sq ft of space in London alone over the next five years.

Developers are obviously aware of that, and as we read in News this month, the City of London Corporation has announced that a record number of planning approvals were granted in 2025. Some half a million square metres of office space was granted planning permission with half of this already under construction, so developers seem ready to move as soon as permissions are granted, and there is a lot more to come down that pipeline.

There are 30 major commercial schemes currently under construction in the City and demand for high-quality workspace continues to outstrip supply. New development activity is said to reflect both long term confidence in London's role as a global financial and professional services centre, and growing demand for sustainable, Grade A office space from international occupiers. High quality, amenity rich office space is in high demand, with vacancy levels continuing to fall, and prime supply exceptionally tight. Tenants are hungry for new space, and leasing activity last year reached its strongest annual performance since 2019.

The encouraging thing about all this is that almost all - if not in fact all - of these buildings will be steel framed. The tight restrictions on space in locations like the City make it extremely unlikely that any other material would be economic or practical. The relatively low self weight of steel often means that extra floors can be provided within the same height of building, and lower weight also means extra floors can be added during future redevelopments using the original foundations. These factors can transform the prospects of projects going ahead at all.

Gardiner & Theobald's latest Tender Price Inflation Report in February was another encouraging indicator, finding that tender price inflation expectations were edging higher, but seeing early signs that schemes recently delayed by any of a number of reasons for giving funders and developers pause for thought might now be being progressed. G&T said current activity was being supported by legacy workloads, but there is potential for a 'more meaningful release of deferred projects' later in 2026.

Other suggestions of improving conditions came from the January UK Construction PMI, which rose sharply to 46.4, marking the slowest reduction in activity for seven months and the strongest reading since mid-2025. New orders remained in decline, but the pace of contraction was found to have eased, particularly in commercial work - a source of strong demand for constructional steelwork.

Overall, the evidence points to a market that remains cautious, but one where the depth of the downturn is moderating with improving sentiment and enquiry levels. So the demand is there and the funding is there; all waiting for a removal of uncertainties.

STEEL for life

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# Record year of planning approvals will transform City skyline

The City of London Corporation has revealed a new 'City Skyline CGI' showcasing what the Square Mile's tall buildings cluster will look like in around six years' time, reflecting a record year of planning approvals in 2025.

Despite industry headwinds, over half a million square metres of office space was granted planning permission in the City last year, with around half of this amount already under construction.

It means the Square Mile will remain a hive of building activity in the years ahead, with significant projects such as 1 Undershaft already underway, and with 85 and 60 Gracechurch Street starting imminently, these projects combined will contribute to over 200,000m² of commercial space.

With 30 major commercial schemes currently under construction and demand for high-quality workspace continuing to outstrip supply, the City is said to be entering the next phase of growth from a position of strength. New development activity is reflecting both long-term confidence in London's role as a global financial and professional services centre, and growing demand for sustainable, Grade A office space from international occupiers.

Policy Chairman of the City of London Corporation, Chris Hayward, said: "Record demand for high quality, amenity rich office space is reinforcing the City's position as one of the world's most resilient and attractive business districts, with vacancy in the City Core continuing to fall, prime supply remaining exceptionally tight and leasing activity reaching its strongest annual performance since 2019.

"As global capital becomes increasingly selective, the City of London is a place that is able to deliver complex schemes at scale while adapting to changing patterns of work and occupier expectations."

# Steelwork milestone reached at Immingham logistics site

Associated British Ports (ABP) has marked a major milestone at its new HELM at Immingham logistics site, with a steel signing event.


Over 650t of structural steel has been installed as part of the first phase (two warehouse units) of development at this 227-acre site, located close to the A180.

In total, the project consists of eight warehouse units, ranging in size from 447m² up to 2,489m² and targeted at small to medium-sized enterprises in energy venture start-ups, port logistics, engineering, manufacturing and distribution.

Working on behalf of ABP and CR Reynolds, Billington Structures is fabricating, supplying and installing the steelwork.

Andrew Dawes, Regional Director of the Humber Ports, said: "This major milestone for the development of these business units is moving at pace, and for ABP is demonstrating our commitment to UK trade and the regional economy.

"We are the Humber's number one gateway for global commerce, and this steel signing ceremony reinforces our position in continually investing and evolving our port facilities."

Councillor Philip Jackson, Leader of North East Lincolnshire Council, said: "ABP's new HELM development will further strengthen the local economy, providing additional quality business units in a much-desired industrial area close to the Port of Immingham, allowing businesses to take advantage of what we have in North East Lincolnshire."

# Light-gauge steel provides housing solution for Camden

Camden Borough Council and Morgan Sindall Construction have marked a significant milestone in the delivery of two new North London hostels with a topping out ceremony, celebrating continued progress on site.

Once complete, the development will consist of 39 units on Camden Road and 50 units on Chester Road. Both hostels will include a mixture of single and double beds, and each unit will be fitted with its own bathroom to provide temporary accommodation for people within the borough.

Both hostels have been built using Metframe from voestalpine Metsec, a load-bearing light-gauge steel frame consisting of prefabricated panels.

Richard Dobson, Area Director of Morgan Sindall Construction in London, said: "Reaching this topping out milestone is an important moment for everyone involved in the delivery of the hostels. These facilities will provide safe, secure, and high-quality accommodation for individuals and families at a time when demand for temporary housing in London is at a critical level, and we are proud to be a part of that."

Councillor Nasrine Djemai, Cabinet Member for New Homes and Community Investment, said: "This new temporary accommodation will be energy efficient, safe, secure and built to the highest quality. Alongside this, we want to ensure this development benefits local communities and as part of the works, contractors are providing


apprenticeships, work experience placements and ring-fenced jobs for local people."

# Caunton showcases refurbished training academy

Highlighting a commitment to the next generation of engineers, MP for Broxtowe in Nottinghamshire, Juliet Campbell, visited Caunton Engineering's refurbished Training Academy.

The upgraded facility features modern learning spaces, state-of-the-art equipment, and enhanced workshop facilities, providing apprentices with hands-on experience across all areas of steelwork fabrication and welding.

Trainees combine technical knowledge with practical application, preparing them for future industry challenges.

During the tour, MP Juliet Campbell met current apprentices as well as Caunton Engineering Chairman Simon Bingham, gaining valuable insight into the academy's role in developing the workforce, supporting the local economy and preparing engineers to meet industry demands.

She said: "It was fantastic to visit Caunton Engineering, see the factory and facilities and, most importantly meet staff and apprentices.

"I was really impressed with the Training Academy and the opportunities that it provides young people to gain skills and expertise. I look forward to hearing more about Caunton's projects and achievements."

# Landmark North East town hall to get major makeover

Middlesbrough Council has appointed locally-based Walter Thompson (Contractors) as the main contractor for the redevelopment of the borough's historic Old Town Hall.

Work on the Grade II listed building (first opened in 1846 and vacant since 1996) will bring the landmark structure back into use as a modern business destination within Middlehaven's Boho Zone.

Reflecting the national importance of restoring and repurposing historic buildings for contemporary use, the project is supported by more than £4.5 million from The National Lottery Heritage Fund as well as £1.8 million of existing government funding.

Once complete, the building will provide over 650m² of high-quality office accommodation for the growing digital and creative sector, while preserving one of the town's most important heritage assets.

Councillor Theo Furness, Middlesbrough Council's Executive Member for Development, said: "The Old Town Hall is one of the real icons of Middlesbrough's history and heritage, and I'm delighted to see it being brought back into use.

"It's been a key feature of the town's skyline for 180 years, and these ambitious plans will ensure it continues to play an important role in the life of the town for many decades to come.

"It is both a potent symbol of Middlesbrough's industrial heyday, and of the boundless ambition and aspiration we have for the future."

# Ground broken for Isle of Skye primary school

Being delivered in partnership with The Highland Council, Morgan Sindall Construction has begun work on the new Broadford Primary School on the Isle of Skye, following a turf cutting ceremony.

The £21 million project forms part of the Scottish Government's Learning Estate Investment Programme, which aims to deliver high-quality, digitally enabled, low-carbon teaching environments.

The campus, which includes a primary school, nursery, gym hall, public library and council service point, has been designed to Passivhaus standard, ensuring energy efficiency and supporting the Council's ambitions to deliver future-proofed facilities.

Councillor John Finlayson, Chair of The Highland Council's education committee, said: "Today is a momentous day as we welcome the start of construction on a brand-new school in Broadford. It has taken a huge deal of energy, commitment and vision to get us to this stage, but the end result will be first class facilities for the school and wider community.

A new school for Broadford has been a priority ambition of The Highland Council, and now we are turning that vision into genuine progress. The new school shows the enormous value in partnership and co-operation when it comes to delivering lasting change."

# NEWS IN BRIEF

Allowing improved resilience, safety and long-term maintainability, **Joseph Ash Galvanizing** has completed a major electrical infrastructure upgrade at its Chesterfield site. The project involved the full replacement of the main incoming primary distribution panel and upgrading to a modern, fully metered Form 4 Type 2 panel.

**Laing O'Rourke** has been chosen to deliver the new state-of-the-art cancer centre at the Royal Sussex County Hospital in Brighton. It will provide safer, more efficient, and better access to cancer care and services for a local population of around two million people.

**Caddick Construction** has started work on delivering Ashfield Mills in Bradford, an apartment development for Anchor, one of the UK's largest providers of housing and care for people in later life. The £20.7 million project consists of 75 apartments, communal amenities, car parking and landscaped areas.

The Government Property Agency has signed up **Kier** to construct its new office hub in Darlington. The £120 million project, which is expected to be complete in early 2028, will accommodate the Darlington Economic Campus, with more than 1,600 civil servants from departments including HM Treasury, the Office for National Statistics and the Department for Culture, Media & Sport.

**McLaren Construction** has been awarded the contract to build the first of three 70MW data centre buildings for a new campus in London Docklands. The scheme campus is being developed by US firm Ada Infrastructure, as its first development in Europe.

# PRESIDENT'S COLUMN

## Getting it right.

The BCSA has recently sent out a request for volunteers to help establish a Quality Group as it has been acknowledged that a lack of focus on this key discipline represents a gap in support for members. Ultimately, membership of the BCSA should equate to best in class quality within the structural steelwork sector, with an emphasis on competence, integrity and value. Within the wider construction industry, we are witnessing an enhanced focus on supply chain competence and the hope is that this specialist group will provide benefit to all our members.

There is always the danger that once a particular quality audit has taken place and the appropriate certification received an element of complacency can take over. Also, when working in an atmosphere of cost constraint, the question as to whether something is necessary or just "a nice to have" is often raised. However, as described in BS EN 9001, within any quality management system there should be an emphasis on continuous improvement.

In the distant past health and safety was probably viewed in the same manner but through new initiatives, retraining and continual refocus of effort, year on year improvements have become the norm. Also, reduced accident frequency and safer systems of work have in turn improved productivity. Both the health and safety, and quality standards are written around the same core processes to show that a commonality of approach should be adopted in their implementation. The similarities are intentional and as structural steel fabricators we shouldn't forget that we are manufacturing safety critical components on a daily basis. However, on the plus side, it has been demonstrated that delivering a quality product also delivers a better bottom line.

The Construction Products Regulations and CE marking were introduced in 2014. With their introduction, many of us took the chance to upskill our workforce and improve our standards, while the BCSA made adherence a condition of membership. As always, some avoided the costs involved and with a lack of regulatory enforcement, they have not been incentivised to do otherwise. It is perhaps more surprising that consultants and contractors are still prepared to engage fabricators without the appropriate EN 1090 certification when they are clearly legally obliged to do so. It is pleasing to see that DBT have set up a project to tackle this issue but this practice should have been stopped in the first place. Hopefully, now that the control of CE/UKCA marking is falling under the remit of the Building Safety Regulator a fairer system will emerge where those that try to do the right thing are not penalised in the marketplace.

However, CE marking only actually demonstrates the ability of an organisation to manufacture a component to a defined technical standard and is not a quality mark. Our end clients want to know that when they engage a structural steelwork contractor that they have the competence in design, production and erection required to ensure the delivery of a quality product on their site. To this end, the best industry-wide measure of an individual steelwork contractor's capabilities is the RQSC assessment for both bridgeworks and building structures. I'm of the opinion that this existing assessment process should be further enhanced to ensure that it is the de-facto badge of quality for the structural steelwork sector and thereby further reinforce the confidence of our end clients.

The BCSA is also supporting the Get It Right Initiative (GIRI) which estimates that the average cost of quality issues within construction is 21%. The formation of our own Quality Group complements this initiative and it will be to the benefit of all our members if we get this right.

**Chris Durand**
BCSA President

# MP visit endorses Welsh steel fabricating sector

MP for Llanelli, Dame Nia Griffith praised the contribution and potential of the Welsh constructional steelwork sector during a visit to Shufflebottom (part of the Embrace Steel Group).

Based at Cross Hands, near Llanelli, 70–75% of the company's work has traditionally focused on major agricultural projects, but it is now expanding into healthcare, education and defence.

The visit, arranged by the British Constructional Steelwork Association (BCSA), formed part of a UK wide programme designed to connect MPs with steelwork fabricators in their constituencies.

Zoe Williams, representing the BCSA, raised issues including the rising cost of energy, which continues to place pressure on energy-intensive manufacturers, and the ongoing recruitment challenges affecting the wider sector. She also discussed the association's recent campaign regarding the Net Zero Teesside project and the potential loss of work for UK steel fabricators, and the fact that Chinese steel is being imported for a significantly sized national flagship project.

Dame Nia Griffith MP said: "I was very pleased to hear that Shufflebottom is tendering for work on the Electric Arc Furnace in Port Talbot. I want to see local firms taking up as many supply chain opportunities as possible in the exciting investments we are seeing in South West Wales such as the off-shore wind farms, development of the ports to service them and the defence establishments."

Richard Wigley, Commercial & Technical Director at Shufflebottom, added: "We were delighted to host Nia and truly appreciated the time she took to meet with our wider team and see our facilities first-hand.

"It was a great opportunity to discuss our ongoing investments, current processes, and future plans, as well as the work we are doing to drive efficiency and innovation. As a local MP, her interest in manufacturing and the steelwork sector is very encouraging for both our workforce and the wider regional supply chain."

# Curtain rises on £20 million Malvern Theatres makeover

Scheduled to complete in late 2027, work has officially started on the expansion of Malvern Theatres.

Said to be one of Worcestershire's most valued cultural landmarks, the project will deliver a new 240-seat studio theatre, improvements to the Forum Theatre, workshop spaces and a community amphitheatre.

Harriet Baldwin, MP for West Worcestershire, said: "It is great to see work underway and I know we are all looking forward to seeing great new facilities in place in the heart of Malvern to inspire the next generation of performers and staff."

Designed by architects Burrell Foley Fischer, construction is being delivered by locally-based Speller Metcalfe.

Fred Moroni, Chief Executive Officer at Malvern Theatres, added: "The project will lead to a raft of improvements and new venues at the theatre, which will open up great opportunities and a wider programme for people to access and engage in the arts."

# Spades in the ground for Thornaby leisure centre

Working on behalf of Stockton-on-Tees Borough Council, Galliford Try has started work on a new, state-of-the-art leisure facility for Thornaby town centre.

The project is part of the £23.9 million Thornaby Town Deal, set to bring long-term change and investment to the area.

The £14 million two-storey leisure facility will include a five-lane swimming pool, gym, sauna and changing rooms. It will also connect into the existing Thornaby Pavilion via a first-floor link bridge.

A new entrance and car park, providing 46 additional spaces, will be created, as well as improvements to the surrounding public realm.

Councillor Richard Eglington, Cabinet Member for Regeneration and Housing at Stockton-on-Tees Borough Council, said: "A new leisure centre in Thornaby will not only provide state-of-the-art sports facilities on people's doorsteps, it will also bring footfall and add vibrancy to the town centre."

Mark White CBE DL, Chair of Thornaby Town Deal Board, said: "Thornaby's new leisure centre is an exciting project and one we were very passionate about bringing forward."

The project is due to complete in summer 2027.

# Digital innovation comes under the spotlight after MP visit


Catherine Atkinson MP (second from left in picture) visited global construction software specialist, STRUMIS at its offices in Derby to meet industry representatives and discuss skills, training and the future of UK steelwork construction.

Steve Watson (centre of picture), Sales Manager at STRUMIS, presented an overview of the company's work, demonstrating how digital tools are supporting greater efficiency and innovation across the global steel fabrication market.

Catherine Atkinson MP said: "Derby has always been a city of makers, combining practical skill with innovation. It was fantastic to see that spirit continuing at STRUMIS, where digital technology is shaping the future of steel manufacturing.

"I'm particularly encouraged by the focus on strengthening apprenticeships and expanding high-quality training, including in specialist areas like welding. This Government's commitment to delivering 50,000 more apprenticeships and investing in technical education is exactly what industries like steel need to grow and future-proof their workforce."

BCSA CEO Jonathan Clemens (far left in picture), said: "It was great to discuss the issues affecting our members, particularly around skills. Visits like this are important for the steelwork industry as they give policymakers direct insight into how the sector operates, the challenges businesses face and the investment needed to support innovation, productivity and long-term growth."

Stuart Thompson, CEO of STRUMIS (second from right in picture), added: "Digital innovation plays a growing role in improving productivity across construction, and discussions like this help highlight the importance of supporting both technology and skills within UK manufacturing."

# Blackpool regeneration gathers pace

The latest phase of Blackpool's wide-ranging regeneration programme is quickly taking shape with the aid of steel construction.

Working on behalf of developer Muse, Vinci Building is constructing a 4,900m² office block, adjacent to Blackpool North railway station, which will accommodate up to 1,100 staff from Defence Business Services (DBS).

As the Ministry of Defence's shared services organisation, DBS provides finance and procurement to the whole of defence. This includes serving the military, veterans and civilian staff, as well as other government departments.

Councillor Lynn Williams, Leader of Blackpool Council, said: "This is another major step forward in our plans to make Blackpool better. We're grateful to government for recognising our economic potential and continuing to invest and help us create jobs for local people."

Leach Structural Steelwork is fabricating, supplying and installing the steel frame. The project is scheduled for completion in 2027.

# Steel transfer structures support East London mixed-use scheme

Forming the second phase of works on a former goods yard site, close to the Tower of London, two steel transfer structures are being installed to support 14-storey mixed use scheme at 88 Royal Mint Street.

Unlocking the site's full potential, the northern-most steel structure spans over part of a Network Rail viaduct, while its southern neighbour is positioned directly above two encapsulated Docklands Light Railway (DLR) lines serving Bank Station.

The scheme is being developed by IJM Group, constructed by its main contractor Midgard, designed by Whitby Wood, and with Caunton Engineering fabricating, supplying and installing the 1,200t of steelwork.

Because of its position, the northern transfer structure has been entirely installed during a series of rail possessions, obtained from Network Rail and Transport for London (TfL).

The structure is supported along its northern elevation by four 12m-tall columns, weighing up to 13t each, that pierce the Victorian brick viaduct at a point between the DLR and mainline railway lines. To the south and abutting the viaduct, there are further supporting columns that are sat within the footprint of the site.

The columns support a series of trusses, which are up to 13m-long and 3.5m-high, that span over the DLR lines, creating a 5m clearance for the trains.

# Diary

For SCI events, contact SCI Education, tel: 01344 636500 email: *education@steel-sci.com* web: *https://portal.steel-sci.com/trainingcalendar.html*
For BCSA events, visit: *https://bcsa.org.uk/events/*

**Wed 25 March 2026**
**Generation 2 Steel Design**
Webinar - Free to all
The second generation of Eurocodes are starting to appear in their final format. Although it may seem a long time before they will be used (March 2028) there is much preparatory work required and it is never too early to appreciate the changes – which are significant in some areas. This webinar will discuss the main changes in the Eurocode parts which have already been released.

**Tue 21 & Thu 23 April 2026**
**Fire Resistance of Light Steel Framing**
Online course
This course will demonstrate how light steel framed buildings should be designed and detailed to provide fire resistance in accordance with UK Building Regulations. It includes the testing and design requirements for loadbearing light steel framed walls and floors, constructed using cold-formed steel sections and sheathed with gypsum-based boards to provide the necessary fire resistance. In some cases it is necessary to design load-bearing walls exposed to fire on two sides, design methods for this scenario will be included as there are no standardised fire tests available for this configuration.

**Wed 29 April 2026**
**Wind loads & SCIPHYR**
Webinar - Free to all
Wind actions are important in the design of all buildings, especially for relatively lightweight structures such as single-storey buildings. Wind actions are critical for the design of secondary elements such as façades, signboards, infill panels, purlins and siderails. The webinar will discuss how to factor in various topographic influences and directional variations in wind calculations. In response to the industry's evolving needs, SCI has developed SCIPHYR (pronounced "Zephyr"), a new wind analysis software. SCIPHYR provides a robust solution for modern engineering challenges.

# The Smith project team celebrate steel frame completion

A major milestone has been reached at The Smith, 7 Millbank, project in London, with the successful installation of the final steel beam for the building's structural frame.

A spokesperson for steelwork contractor William Hare, said: "Despite stringent noise constraints and operational restrictions, due to our close proximity to neighbours that include the Houses of Parliament and Westminster Cathedral, our teams have expertly delivered a precise and efficient build.

"The high-performance steel frame that is now in place will form the backbone of the building's future use."

Working on behalf of main contractor Skanska, William Hare fabricated, supplied and erected 1,600t of steelwork to create the nine-storey office building.

Aiming to achieve a BREEAM 'Outstanding' rating, two of The Smith's main elevations will be clad with reinstated Portland stone, from the site's previous building.

# Work set to start on Southport arena

Sefton Council has appointed VINCI Building as the preferred contractor for the delivery of its Marine Lake Events Centre (MLEC) in Southport.

As part of a Pre-Construction Services Agreement (PCSA), VINCI Building will be working closely with the Council's project team over the coming months.

Construction work on the ambitious waterfront development is set to begin later this year.

The MLEC is the flagship project of Southport's Town Deal and a cornerstone of the borough's regeneration plans. It will be a state-of-the-art, multi-purpose venue for entertainment, conferences and events, replacing the old Southport Theatre with a modern 1,200-seat auditorium and exhibition space.

Councillor Marion Atkinson, Leader of Sefton Council, said: "We are pleased to welcome VINCI Building as the preferred contractor for MLEC.

"The brand-new venue will create new jobs, attract hundreds of thousands of visitors, and provide a world-class events venue for our borough and the Liverpool City Region. We remain fully committed to seeing this project through and securing the long-term economic and cultural benefits it will bring for all of us."

Gary Hughes, Regional Director for VINCI Building, added: "This is an incredibly exciting project for us, and we are delighted to be appointed as the preferred contractor. It gives our delivery team great opportunities to collaborate even more closely with local businesses and the Sefton community in delivering this flagship development.

"The benefits for the whole area will be substantial, both throughout the construction and long after completion, as we help drive forward Sefton Council's vision of attracting major events to Southport."

# Former Royal High School building to become Scotland's National Centre for Music

The redevelopment of the former Royal High School building in Edinburgh into Scotland's National Centre for Music has reached a milestone with the appointment of Robertson Construction.

The Category A listed building, which has remained unused for more than 50 years, will be transformed to accommodate three performance spaces, rehearsal rooms, a recording studio, a café and conference rooms.

Carol Nimmo, Chair of the Royal High School Preservation Trust, said: "After years of dedication and work from our trustees, design team and staff, moving to the construction phase is a truly memorable moment.

"Throughout the enabling works, we've formed a strong working relationship with Robertson, who share our vision for the building and have a wealth of experience when it comes to reimagining historic locations."

Elliott Robertson, Chief Executive Officer at Robertson Group, added: "The Royal High School building is a widely recognised landmark on Edinburgh's skyline and this project represents a rare opportunity to bring it back into active public use."

BCSA

# Make sure your Steelwork Contractor is RQSC approved

Image courtesy of William Hare Limited

Specify an approved company from the Register of Qualified Steelwork Contractors for Buildings, to ensure your project meets the Building Safety Act requirements. As of October 3rd 2023 it became mandatory in the NSSS 7th edition, 1st Revision that all Steelwork Contractors are RQSC approved.

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RQSC

The Register of Qualified Steelwork Contractor **Buildings**

Long-span cellular beams form the roof of the sports hall and pool area.

# Leisure boost for the valleys

**Steelwork's ease of construction and flexibility have made it the framing solution of choice for a state-of-the-art leisure centre in the South Wales town of Caerphilly.**

Known for having the largest castle in Wales and producing a traditional crumbly cheese, the town of Caerphilly will soon have one of the most up-to-date leisure centres in the region to add to this impressive roster.

The £38 million Caerphilly Leisure and Wellbeing Hub is transforming an area of disused scrub land, close to the town centre, into a vibrant community centre that will support and encourage healthy, active lives.

Visualisation of the completed leisure centre.

Julia Goddard, Regional Director at Alliance Leisure (which has been appointed by Caerphilly County Borough Council to deliver the project), says: "Once open, the Hub will transform the lives of people living in the town and the surrounding areas.

"The facilities have been designed to accommodate the needs of everyone and to support individuals across their entire life journey. Children who will enjoy the facilities now will grow up and enjoy the facilities with their own children, and then their children's children in years to come."

When complete, the two-storey, timber-clad building will house a six-lane swimming pool and wet play area served by a large changing zone, a state-of-the-art health suite, a comprehensive fitness suite (gym), fitted out with cardiovascular and strength training equipment, two flexible studio spaces, a group cycle studio, and two squash courts.

The building also includes a café, a large adventure play facility, a TAG Active arena, lounge area, two flexible consultation rooms, and a dedicated social space for use by community groups.

Councillor Chris Morgan says: "The opportunity to create a purpose-built leisure and wellbeing centre designed to cater directly for the diverse social, health and wellbeing needs of our community is a once in a generation opportunity. Working with Alliance Leisure, through the UK Leisure Framework, we are engaging leisure expertise at all levels of the supply chain to design and build a leisure and wellness hub that will stand out as one of the finest in the UK."

With a footprint of around 1,763m², the Hub has been designed as a large steel frame, which gains its stability from localised and vertically braced bays, as well as moment frames.

The material was chosen as it can easily and efficiently form the desired long span and column-free spaces that are a vital ingredient of leisure and sports centres.

Having considered a number of framing options, the design team chose steelwork as it best facilitated the architectural vision, while using cellular members meant services could be efficiently

**FACT FILE**
**Caerphilly Leisure and Wellbeing Hub**
Main client: **Caerphilly County Borough Council & Alliance Leisure**
Architect: **Watson Batty Architects**
Main contractor: **Morgan Sindall Construction**
Structural engineer: **Stantec**
Steelwork contractor: **Shufflebottom (part of Embrace Steel)**
Steel tonnage: **450t**

integrated into the depth of the beams, thereby reducing the required structural zones and the overall height of the building.

On plan, the building's design includes a slight skew, whereby two of the structure's four corners are not at right angles. In order to create this shape, the internal column grid pattern changes in these areas and the rotation of some beams has had to be altered.

Richard Wigley, Commercial & Technical Director, at Shufflebottom, says: "The project is a good example of how steelwork can support ambitious architectural and community-led outcomes. The long spans, complex geometry and integration of services required a considered and collaborative approach, particularly around connection design and buildability.

"Working closely with Morgan Sindall and the wider design team allowed us to deliver an efficient structural solution, while maintaining programme certainty."

Elsewhere, a regular column grid pattern has been used as much as possible, offering opportunities for layout flexibility with the future use of the building.

Within the Hub, the two largest double-height long-span zones are positioned on opposite sides of the building. Separated by the main two-storey element of the structure, one area accommodates the swimming pool, while the other is a sports hall.

The pool hall, which is the longer of the two zones, accommodates the main 25m-long swimming pool as well as the wet play area that will include a two-storey high flume.

*"The project is a good example of how steelwork can support ambitious architectural and community led outcomes."*

The steel frame was erected by a single 90t-capacity crane.

The roof of the pool hall and sports hall are both formed with a series of 20m-long cellular beams which were brought to site in two pieces and spliced together on the ground before being lifted into place using the erection team's 90t-capacity mobile crane.

In line with the project's efficiency aspirations, both sets of long-span beams will accommodate air-handling equipment within their respective cellular openings.

Supported by the cellular beams, the pool hall will have a green roof, the sports hall a standing seam, while the area in between, (over the two-storey part of the hub) will be covered with a felt roof. Throughout, the roof structure is made up of a mixture of solid and perforated acoustic decking.

Also at ground floor, there are two other significant column-free spaces. Accommodating the main entrance and extending into the adjacent café, one of these areas has been created by a 15m-long × 5m-tall truss, positioned at first-floor level and concealed within the gym's main elevational façade.

Abutting this area, the TAG Active hall is an 11m-wide, double-height column-free space. It will provide a modern obstacle course where players wear illuminated wristbands (TAGs) to help gain points for speed and agility.

Located in the middle portion of the hub, the two-storey element accommodates the main changing facilities on the ground floor (both wet and dry areas), while on the upper floor there is the gym (with a 15m-wide clear span), studios and squash courts (15m-wide spans).

Using a composite solution, the upper floor has been formed with steel beams supporting metal decking and concrete topping.

Externally, a stand-out feature of the project is created by a fully-galvanized canopy that wraps around the south-west corner and extends along the main (south) elevation, forming a covered walkway for the Hub's entrance.

Thermally isolated from the main building, the canopy is supported on a series of raking 12m-tall × 400mm-diameter CHS columns. Reaching above the building's parapet, the canopy is a geometrically-challenging structure that slopes in two directions.

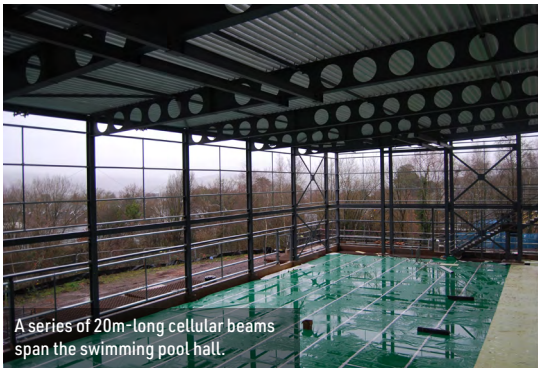
The canopy deck, which is up to 5m-wide at the corner, is formed with a series of beams, bracings, moment connections and cold-rolled joists, that will be clad with a standing seam.

Including the canopy's CHS columns, the majority of the Hub's columns are founded on shallow spread footings. The exception is the pool hall, where a deep perimeter ring beam has been installed to share column loadings and allow the reduced dig in the area for the pools and the associated plant and services.

The foundations were installed following a programme of dynamic compaction, which was carried out across the entire site in order to improve ground conditions.

The Caerphilly Leisure and Wellbeing Hub is due to complete in March 2027. ■

The south-west corner of the building features a galvanized canopy, supported by 12m-tall CHS columns.



A series of 20m-long cellular beams span the swimming pool hall.

# Gateway to economic growth

**Situated in a prominent city centre location, the steel-framed Gateway One building will become Doncaster's new digital technology hub.**

Helping to unlock the Government's Artificial Intelligence (AI) ambitions, Doncaster is positioning itself as a north of England technology hub, with the construction of Gateway One.

The five-storey steel-framed building will provide working space for world-leading AI companies, innovative local businesses and global entrepreneurs, seeking an alternative to the Golden Triangle of Cambridge, London and Oxford.

Located opposite Doncaster's main railway station – making it ideal for commuting – the project forms the first phase of a much wider vision to regenerate this part of the city centre.

As well as the building, the project also includes a public realm, which will provide a landscaped link between the railway station and Gateway One.

Commenting on the project, Mayor of Doncaster, Ros Jones, says: "Our aim is to create a new digital hub, which will bring exciting new opportunities for Doncaster including jobs, economic growth and increased footfall. It will put the city at the forefront of the changing economy and technological advancements as we strive to become a regional Artificial Intelligence (AI) Growth Zone.

"We want Doncaster to become a front runner in digital technology as we are already emerging as a centre of excellence for AI. This building will act as a magnet for leading digital and tech companies looking for opportunities to scale and grow their business."

Starting on site in March 2025, main contractor Willmott Dixon's initial task involved the demolition of some existing buildings, which cleared the plot in readiness for construction to get underway.

Preliminary works also included the installation of foundations, which consisted of 114 CFA piles, which are up to 10m-deep.

Supported on the piles, the steel framed structure starts at ground-level and incorporates a braced core, which is positioned along the Trafford Way elevation (facing away from the station) and accommodates precast stairs and a precast lift shaft.

"During the feasibility phase, multiple floor plan layouts were considered on how best to locate the vertical distribution stairs and lifts," says BJB Consulting Associate Chris Neill.

"The chosen location for the core offered the greatest office layout flexibility for future tenants and creates 11m clear spans along the entire length of the building."

Creating the desired flexibility, all of the office floorplates, which feature just two internal columns, have been designed as single open-plan

**FACT FILE**
**Gateway One, Doncaster**
Main client: **City of Doncaster Council**
Architect: **Bond Bryan**
Main contractor: **Willmott Dixon Construction**
Structural engineer: **BJB Consulting**
Steelwork contractor: **Billington Structures**
Steel tonnage: **500t**

Gateway One is only a short walk from Doncaster railway station.

*"The chosen location for the core offered the greatest office layout flexibility for future tenants and creates 11m clear spans along the entire length of the building."*


A steel-framed solution has created the desired column-free internal spans.


Metal decking provides a composite flooring solution.


Structural stability is derived from a single concrete core.

spaces. However, there is the option to add a partition wall, sub-dividing each floor into two office areas.

In preparation for the possibility of two separate tenants, the core's stair and lift area has been designed with two entrances on each floor.

Installed in sections that weighed up to 15t each, the core's lift shaft was the project's heaviest item to be lifted into place, and required the use of a 160t-capacity mobile crane. For the steel erection, Billington Structures used a smaller 90t crane, as the heaviest members are column sections weighing 1.2t.

Like most inner-city sites, space is at a premium on this project, as there is just enough room for a single crane to be positioned. The site is surrounded by busy roads and the railway station's access routes, all of which must be kept clear of construction traffic.

Using the project's one delivery pit lane (on Trafford Way), steelwork had to be brought to site on a just-in-time basis.

The design of the steel framed structure includes a ground floor main entrance lobby situated alongside two retail units, while above there are four open-plan office levels. The roof will accommodate a plant deck and an array of photovoltaic panels.

The ground floor façades will be clad with green glazed brickwork, matching a nearby pub, while the upper floors will have a more traditional buff coloured brickwork.

Forming the 11m-long internal spans are a series of bespoke fabricated cellular beams. As well as accommodating the building's M&E services within their depth, the beams also support metal decking and a concrete topping, forming a composite flooring solution.

"There was an aspiration to have fully exposed structural soffits within the office areas and cellular beams offer a visually pleasing solution," says Willmott Dixon Senior Build Manager Dan Lewis.

"To maintain sensible storey heights, it was important that the M&E distribution could be easily integrated and contained within the structural beam depths."

The choice of a metal decked flooring solution was also driven by the exposed steel and soffit aspiration. According to the design team, metal decking provides a uniform light reflective surface, whereas the alternative solution of precast planks can have a variability in colour shades and is also prone to damage and chipping during erection.

Metal decking allows more adaptability in case of late design changes and as it is a lightweight solution, savings were made on the steel frame and foundation designs.

Working in tandem with the diaphragm action of the composite floors, the steel frame gains its stability from bracing.

Along the front and rear elevations, traditional cross bracings, located in structural bays and behind the brickwork façades, have been used.

Meanwhile, the two gable end elevations are fully glazed and therefore the decision was made to make a feature out of the vertical bracing, using CHS's in an inverted V configuration.

"This also allowed the theme of the exposed structural frame to follow through into the elevations. The steelwork fabricator worked closely with ourselves and the architect to ensure the bracing connections were compact enough to be concealed by the raised access floor and perimeter bulkhead," adds Mr Neill.

Summing up, Sally Jameson MP for Doncaster Central, says: "Gateway One will anchor the AI industry here in our city centre and bring fantastic opportunities for home grown talent. It will be good for jobs, good for businesses and good for growth in Doncaster."

Aiming to achieve EPC A and BREEAM 'Excellent' ratings, the Gateway One project is due to complete in February 2027. ■

# Steel creates city centre landmark bridge

**The first bridge to be built over the River Trent at Nottingham in more than 60 years has been successfully installed and will open in the spring.**

Having been fully assembled onsite, the 175t Waterside Bridge was lifted into place across the River Trent on Monday 10th November using a single 1,250t-capacity crawler crane.

The installation process was successfully completed in four hours and was a testament to the months of preparatory works and planning that the project team had undertaken.

Councillor Linda Woodings, Executive Member for Regional Development, Growth and Transport at Nottingham City Council, says: "This was a big milestone moment for our project to build a new walking and cycling bridge over the River Trent – it was thrilling to be at the riverside and see the new bridge land on its supports just as planned."

The landmark bridge will be the final project to come out of the City Council's Transforming Cities Fund programme, which began in 2020, following a successful bid for over £160 million of central government funding for projects which encourage inter-city connectivity and lower carbon journeys.

The new traffic-free bridge will be a key link between the regenerating Trent Basin area (which includes new homes and schools) and the south side of the river with its many sports facilities including Nottingham Forest FC's City Ground, Trent Bridge Cricket Ground and Nottingham Rugby Club.

The aspiration is that by enhancing connections between communities, green spaces and riverside paths, the bridge will make it easier for people living and working in the Nottingham area to travel in a more sustainable way, linking those living in the city centre with green space south of the river.

It will also help the city towards its Carbon Neutral 2028 ambition, as well as improving local air quality and congestion levels by enabling people to travel without needing a car.

Working on behalf of main contractor Balfour Beatty, locally-based Briton Fabricators were the steelwork contractor for the project.

The company fabricated the 87m-long Network arch bridge at its Hucknall facility, which is less than eight miles from the project's site.

Measuring 5.2m wide, the bridge deck was fabricated in three large sections, which allowed the structure to be transported to site.

Overall, the cambered deck includes two fabricated box girders, measuring 750mm × 560mm and 20mm thick, which are connected by a series of 30 RHS cross members (measuring 250mm × 150mm × 10mm).

Supported by the girders and cross members, the bridge deck is formed with 8mm-thick steel panels, installed in 12m-long lengths.

The three bridge deck sections also included a steel balustrade, which is welded to the top of the girders.

The Network arch, which was also fabricated in thirds, is formed with two curved 457mm-diameter × 16mm-thick CHS tubular beams that are connected by nine sets of bracings.

In order to ensure the bridge sections (six in total) would fit together seamlessly once they were delivered to site, Briton Fabricators undertook a trial erection of the bridge at its facility.

The bridge sections were supported on trestles and assembled using temporary bolted connections. Once fully erected to its 20m height, the bridge formed an impressive, albeit temporary, addition to Hucknall's skyline.

After the successful trial erection, the bridge was disassembled and all of the steel sections were transported to Jack Tighe's Doncaster and Scunthorpe facilities, where they were painted. The fully coated bridge steelwork was then delivered to the River Trent project site.

Following a six-week assembly programme, the bridge was lifted into place.


The completed bridge will act as a catalyst for future housing developments along the River Trent.

"The Waterside Bridge was always going to be a steel structure, because it offered the easiest and most cost-effective method of construction," says Balfour Beatty Project Manager Andrew Gee.

The project team's only debate was how to install the steel structure and minimise working over the water.

"Launching the bridge over the river was an option, but lifting the fully-assembled structure into place proved to be the best method for this project," adds Mr Gee.

Prior to lifting the bridge into place, the sections were reassembled on a plot adjacent to the north abutment and each connection was fully butt welded to form the architectural finish.

During the six-week assembly programme, the bridge deck was positioned on trestles and the arch was temporarily supported by two towers. Once it was welded and thoroughly checked, it was ready for its installation.

Only windy conditions could have delayed the bridge installation, but with reasonable, if a little wet, weather, the bridge lift went ahead as planned.

During the lift, the weight of the bridge required the crane to be counterbalanced and sat on specially built tracks, designed to carry its weight. The crane successfully lifted the bridge onto its new concrete abutments following a carefully choreographed lift plan arranged by Balfour Beatty, Briton Fabricators and heavy lift specialist Mammoet.

With the steel structure in its final position, further work has included installing an anti-slip surface to the deck, building ramps and steps at both ends of the bridge, and installing lighting.

**FACT FILE**
**Waterside Bridge, Nottingham**
Developer: **Nottingham City Council**
Architect: **Amey**
Main contractor: **Balfour Beatty**
Structural engineer: **Ramboll**
Steelwork contractor: **Briton Fabricators**
Steel tonnage: **175t**

Another smaller 25m-long steel footbridge, which provides access over the Trent Basin entrance was also fabricated by Briton Fabricators. The bridge was delivered to site in one piece and installed using a 500t-capacity crane.

Summing up, Councillor Bert Bingham, Cabinet Member for Transport and Environment at Nottinghamshire County Council, said: "We're delighted to see this fantastic new bridge being constructed over the Trent. It's a real testament to partnership working and will play a key role in connecting our communities, supporting active travel and making it easier for everyone to get around the area—whether on foot or by bike. We look forward to seeing the positive impact it will have for residents and visitors alike." ■

*"The Waterside Bridge was always going to be a steel structure, because it offered the easiest and most cost-effective method of construction."*

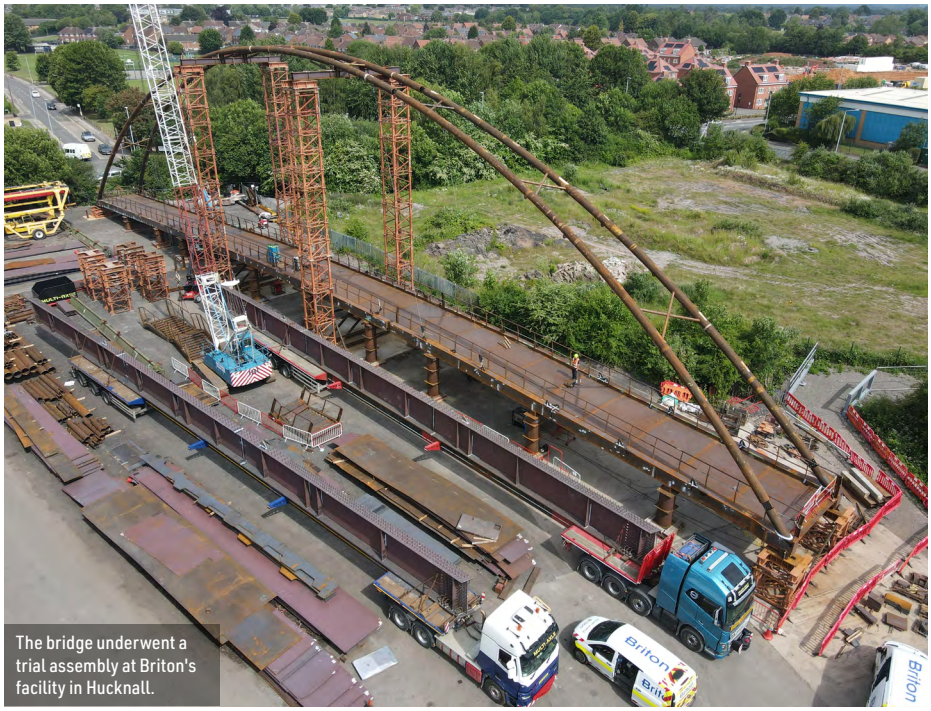
## Bending specialist supplied complex curved sections

Working closely with Balfour Beatty and Briton Fabricators, bending specialist Angle Ring supplied the complex curved steel sections for the Waterside Bridge.

The precision bent components were manufactured to exact specifications to ensure they met the demanding requirements of the bridge design and installation process.

The sections consisted of eight 457mm O/D x 16mm wall circular hollow sections, bent to a 23,800mm centre-line arc with a 59mm radius and 36 rectangular hollow sections bent on the X-X axis to a 39,900mm inside radius with a 4,014mm centre-line arc at 5.746°

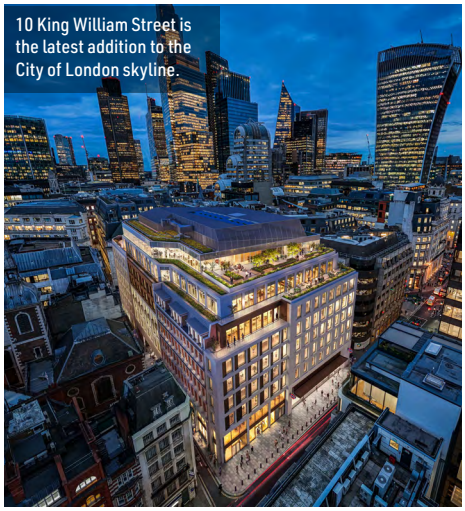
The tubular sections were butt welded to achieve the required lengths before bending, resulting in single-piece curved components that offered the precision and continuity needed for the trial assembly and final lift. ■




The bridge underwent a trial assembly at Briton's facility in Hucknall.

# Going over ground


**A new entrance to a City of London Underground station has created space for the construction of a nine-storey commercial development.**



10 King William Street is the latest addition to the City of London skyline.

Recognised as one of the busiest underground stations in the capital, Bank Station has recently been upgraded in order to ease congestion and make wayfinding between the various lines easier.

Among the improvements, a new station entrance has been created on Cannon Street, allowing better access to Northern Line and DLR (Docklands Light Railway) platforms, while also providing a direct street-level link to the nearby mainline railway station (Cannon Street).

Completed in 2023, the new entrance includes a single-storey ground-level concrete box, which was designed to be part of an over-station development by having a series of plinths, sat in specific locations to support steel columns and their loadings.

Currently under construction, the over-station scheme is known as 10 King William Street, as its main entrance is on the plot's northern boundary. The island site, which was cleared before the station works began, is also bounded by Abchurch Lane to the west and Nicholas Lane to the east.

The new building is a nine-storey steel-framed structure delivering 42,367m² of office space, 2,212m² of terracing, alongside 594m² of retail and occupier amenity provision.

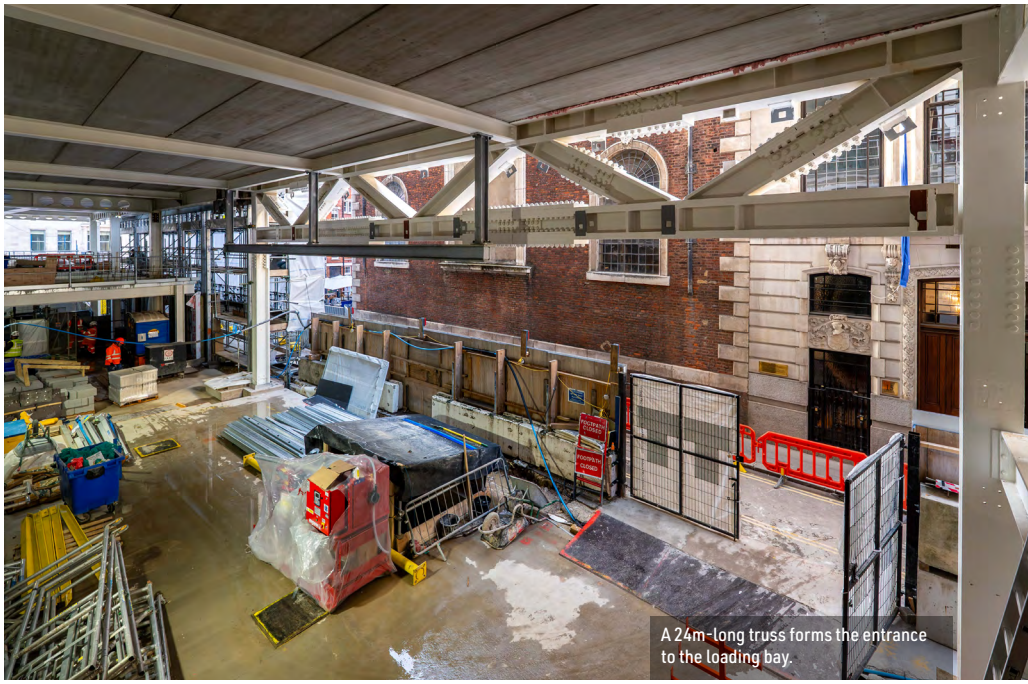
Matthew Bonning-Snook, Chief Executive of Helical, says: "This facility highlights the confidence in the London office market for 'best-in-class' assets, rich in tenant amenity, which will be delivered into a supply constrained City Core market where we are seeing strong rental growth and increasing momentum behind a more comprehensive 'return to the office'."

The station entrance occupies approximately half of the site's footprint and so the over-station office development spans over the box, creating a design where the new building's floorplates extend to their maximum size from first floor upwards. The lower levels – basement, ground and

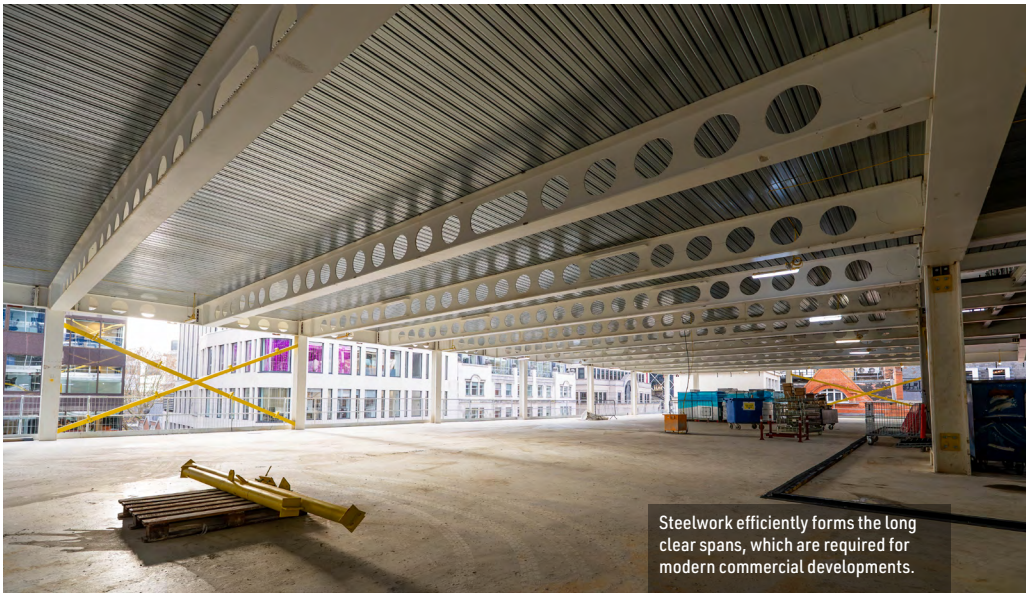
**FACT FILE**
**10 King William Street, London**
Main client: **Helical, Places for London joint venture**
Architect: **Fletcher Priest Architects**
Main contractor: **McLaren Construction**
Structural engineer: **Robert Bird Group**
Steelwork contractor: **Bourne Steel**
Steel tonnage: **1,650t**

*"To isolate the internal warm structure of the new development from the cold structure of the station box, which is open to the elements, the connecting steelwork includes thermal breaks."*

The new Bank Station entrance created the space for the 10 King William Street development.



A 24m-long truss forms the entrance to the loading bay.



Steelwork efficiently forms the long clear spans, which are required for modern commercial developments.

mezzanine – are sat next to the station box.

"To isolate the internal warm structure of the new development from the cold structure of the station box, which is open to the elements, the connecting steelwork includes thermal breaks," explains McLaren Construction Project Director Dermot Keane.

"The walls that interface with the station box are also thermally lined."

As well as the box, the new building is also founded on a 1.8m-thick raft foundation, positioned under the single-storey basement and constructed at the same time as the station entrance. This foundation solution was chosen because the site's location, situated above numerous tunnels and shafts, would have made the installation of piles extremely challenging.

The steel frame starts at ground floor and gains the majority of its stability from centrally-positioned concrete core, which is sat on both the station box and the raft foundations.

"The core is placed in the optimum position to allow the office floorplates to have the desired long-span design," says Robert Bird Group Director Alejandro Cruz.

Chosen as the most efficient solution, a series of Westok cellular beams, up to 20m-long, radiate outwards from the core.

Westok London Resident Engineer James Way, comments: "We continue to see growth in demand for clever low-carbon design solutions in the London commercial sector and we have a number of live sites in the City right now, featuring clear-span beams.

"At 10 King William Street, the lightweight Westok beams typically have a regular arrangement of 400mm-diameter cells, and longer-spanning members have been cambered to significantly reduce construction stage deflection."

The beams accommodate the building services within their depth and support metal decking and concrete topping to form a composite flooring solution for the majority of the floorplates.

Around the core on each level, there is a small area of precast flooring, chosen as it creates a smooth soffit, which will be left exposed.

Also, left exposed in the completed building are the majority of the internal columns. Creating a modern industrial-looking environment for the future tenants, the columns are painted with a high-specification coating.

Fabricating, supplying and erecting 1,650t of steelwork for the project, subcontractor Bourne Steel completed its package in January.

For its steel erection programme, Bourne was able to make use of the site's two tower cranes, which are positioned within the footprint of the building and on top of the core respectively.

Both cranes are able to reach all parts of the project, as well as lift steelwork from the delivery trucks when they arrive at the pit lane.

Working in central London, space is always at a premium and this project has been fortunate to have gained permission to close one side of King William Street, for its invaluable delivery pit lane.

Starting the steel erection programme in and around the core, one of the earliest elements to be installed was also one of the heaviest. Positioned at the underside of first-floor, along the western elevation, a 24m-long × 2m-deep truss, weighing 30t, forms a column-free space for the building's loading bay entrance.

▸18

10 King William Street is the latest addition to the City of London skyline.

In order to make sure it would be erected seamlessly, the loading bay truss was trial erected before it was delivered to site.

▸17

In order to keep the weight within the capacity of the tower crane, the truss was delivered to site in three sections. The pieces were then individually lifted into place and bolted together, while being supported on temporary props.

Prior to delivering the steelwork to site, and to make sure the truss fitted together exactly, Bourne Steel undertook a cloud point survey and trial erection at its fabrication yard.

Next to the loading bay entrance, the steelwork on the south-western elevation will support, via a secondary steel frame, a re-used Portland stone and red brick façade.

Dating from the 1880s and originally from one of the site's previous buildings, which were demolished before the station entrance works began, the façade was carefully dismantled, stored away from site and will be installed later in the programme.

The uppermost three office floors feature terraces, providing the tenants with outdoor breakout spaces with views of St Paul's Cathedral. Large plate girder transfer beams, weighing up to 16t, support the underside of these floors and the inset column lines.

Above the uppermost office floorplate, the steel frame extends to include a plant deck, which will be fully enclosed by a roof structure. Formed with a series of long-span rafters, the clad structure will hide the plant equipment and improve the view for the building's many neighbours.

McLaren will hand over the completed 10 King William Street project in the fourth quarter of 2026. ■

## Plate girder behaviour

At 10 King William Street, large plate girder transfer beams weighing up to 16t, illustrate the scale and structural importance of this feature in multi-storey developments. Their behaviour is often dominated not by bending, but by shear. Yigit Ozcelik of the SCI comments on why this aspect of design deserves careful attention.

With deep plate girders, slender webs are almost unavoidable if the member is to remain efficient in weight and embodied carbon. However, once the web slenderness exceeds the elastic critical limit, shear resistance is no longer governed by yield strength alone. Instead, stability will dominate, and designers must explicitly consider shear buckling and post-buckling behaviour. Eurocode design recognises this clearly. BS EN 1993-1-5 introduces the concept of tension field action, although not explicitly stated, allowing a slender web to develop significant post-buckling resistance, provided that the flanges and transverse stiffeners are capable of anchoring the diagonal tension field.

This post-buckling capacity cannot be taken for granted, as it requires strict boundary conditions. If the flanges are too flexible, or the stiffeners too widely spaced, the web cannot develop a tension field and the theoretical resistance will not be achieved in practice. Clause 5 of BS EN 1993-1-5 therefore requires consideration of the stiffness of transverse stiffeners. These stiffeners are not secondary detailing items – they become primary structural components.

Designers sometimes underestimate the importance of transverse forces and bearing in plate girder transfer beams. Concentrated loads from columns introduce local compressive stresses that interact directly with shear buckling, often requiring closely spaced stiffeners or thicker webs. The interaction rules in Clause 7 of BS EN 1993-1-5 make it clear that shear, bending, and transverse forces cannot be treated independently in slender webs.

From a practical perspective, fabrication and erection also influence shear performance. Large unstiffened panels may look efficient, but can produce very slender web panels with very low elastic buckling resistance. Conversely, excessive stiffening increases fabrication complexity and welding. The optimal solution lies in balanced design, where web thickness, stiffener spacing and stiffness are considered together as a system.

Plate girder transfer beams are high-consequence elements where failure is not an option. By explicitly designing for shear buckling and properly mobilising tension field action in accordance with BS EN 1993-1-5, engineers can design slender webs without compromising safety. In this way, shear buckling becomes a controlled response rather than a failure mode, allowing plate girder transfer beams to efficiently carry extreme column loads while minimising material use and embodied carbon. ■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# Trusses span retail destination

**FACT FILE**
**Wigan Indoor Market Hall (Fettlers)**
Main client: **Wigan Council**
Master developer: **Cityheart**
Architect: **jm architects**
Main contractor: **Galliford Try**
Structural engineer: **SGI Consulting**
Steelwork contractor: **Leach Structural Steelwork**
Steel tonnage: **400t**

The trusses form the required column-free market space.

**Phase one of a transformative mixed-use scheme in Wigan town centre includes the development of a new steel-framed indoor market hall.**

Helping the traditional market town of Wigan keep pace with changing shopping and entertainment preferences, the Fettlers development is set to create a centrally located retail, leisure, commercial and residential destination.

Being built on the former Marketgate and Galleries shopping centre sites, the scheme is said to be one of Greater Manchester's most ambitious projects. It will breathe new life into the town centre, creating a vibrant destination where people can live, shop, work, visit and socialise.

Alongside Fettlers, a number of other projects are continuing to gather pace across the town centre. These include Civic – the new flex office and creative hub, which has already opened in the former Civic Centre – a new building at Wigan & Leigh College's Parsons Walk campus (see *NSC* October 2025), Cotton Works at Trencherfield Mill, and STACK, coming to the former Debenhams unit in the Grand Arcade shopping centre.

According to Wigan Council, this construction activity is a testament to the fact that investors are looking outside the main cities and seeing that their returns are better in the smaller towns.

One of the first buildings to get underway at Fettlers is a new steel-framed indoor market hall, which will play a big part in the scheme's aspirations and vision. The completed market hall will have a diverse range of offerings, including traditional market stalls, a food hall, bars, shops, seating areas and a large screen as well as workspace.

Adjacent to the market hall, phase one also includes a Hampton by Hilton hotel and a three-storey steel-framed office pavilion.

Overall, the development's site covers a much larger area, and later phases are set to include a leisure building, new public square and more than 400 new homes.

Structural steelwork was chosen as the framing solution for the market hall as the material offered the most efficient way of creating the required internal spans. Its lightweight attributes have also come to the fore, as the steel frame is founded on a retained two-storey concrete structure.

Once part of the 1970s-built Marketgate shopping centre, the concrete structure has been incorporated into the overall design and forms the hall's two floors (lower and first).

Because the site slopes from north to south, the lowest floor is at basement level at the Standishgate end (the main shopping thoroughfare of the town centre) and at ground-level at the northern end. Likewise, the main entrance to the hall (on Standishgate) is at ground-level, which then becomes the first floor at the opposite end of the building.

Retaining the concrete structure has presented the scheme with some sustainability benefits, as there was less demolition during the enabling package, which in turn lessened the construction programme's embodied carbon.

Another benefit is the fact that following extensive load path assessments, the retained structure's existing foundations have been reused to support the market hall's (lightweight) steel frame.

Some new piles have also been installed as approximately one-fifth of the market hall is not located on top of the retained structure and required new foundations to support a steel-framed podium.

Amounting to more than 4,000 individual pieces, the steelwork started to be installed in August 2025. Some of the initial steel elements to be erected were within the retained concrete structure, framing new openings that had been opened up to accommodate staircases and risers.

Measuring approximately 110m-long and up to 40m-wide, the majority of the hall is topped with a saw-tooth canopy roof, a design that provides a nod to Wigan's industrial heritage.

The design allows the incorporation of north lights that will allow natural light to penetrate into the building.

The roof is formed with a series of steel trusses, supported by 18m-high columns, founded on the uppermost level of the retained concrete structure, as well as some higher columns within the new steel-framed area.

The retained concrete structure's columns are spaced at 6m centres, but in order to create a more open-plan upper floor for the market, new steel

The trusses form the distinctive saw-tooth roof design.

The complex steel frame comprises more than 4,000 pieces.

columns are sat above every other column, forming a larger 12m × 12m grid.

Using this grid, the north lights are positioned within a series of triangular 12m-long × 2.5m-tall trusses that span between the hall's columns in an east to west configuration. Connecting these trusses, are another series of 12m-long Warren trusses that span the roof in a north-south direction.

The exception to the larger grid pattern is along the northern boundary where a plant deck (which is adjacent to the canopy roof) has columns set at the 6m × 6m pattern.

Planning and logistics proved to be key to a successful steel erection programme. The retained structure could not support the weight of a crane, so for the majority of the package, a 70t-capacity mobile crane, positioned next to the retained structure, was used.

The roof trusses were delivered to site in sections, which were assembled during the erection process.

Once the two supporting columns were in place, the procedure required the bottom boom of the truss to be installed first, which then allowed the remainder of the steel sections to be subsequently assembled.

In order to erect the initial steel sections that form the Standishgate entrance, a much larger capacity crane with a longer reach was required.

"Access to the site for steel deliveries was only available from one point, which was on the opposite side of the site and away from the shopping street," explains Leach Structural Steelwork Estimating & Preconstruction Director, Karl Hunter.

"This meant we needed a 150t-capacity crane with a fly jib, which had to lift 1.9t steel sections across a distance of 56m, right over the retained concrete structure."

The Fettlers indoor market hall is due to be complete and open for business by the end of this year. ■


The completed scheme will offer a bright and contemporary market experience.

# Generation2 snow loads

**BS EN 1991-1-3:2025 was published in the early part of 2025 and will lead to significant changes in practice in how "drifted" snow is considered. David Brown of the Steel Construction Institute considers some of the more important changes.**

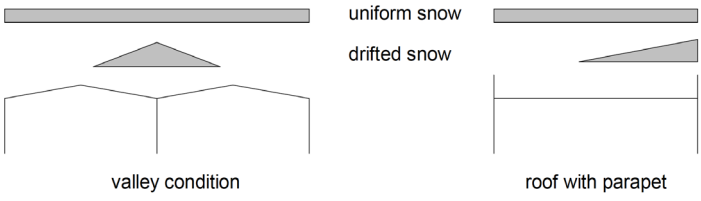


Figure 1: Current snow load arrangements

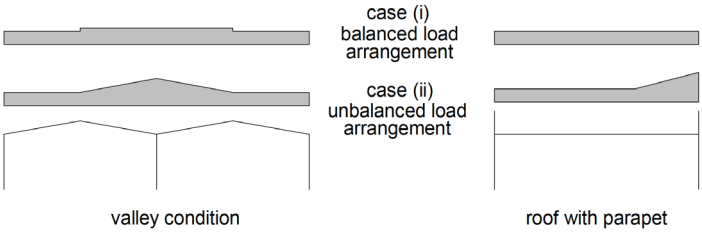


Figure 2: Gen2 snow load arrangements

## Exceptional Snow

At the SCI offices in Berkshire, any snow at all is greeted with surprise. Not quite exceptional, but uncommon and usually gone before it can be enjoyed. "Exceptional snow" is a term in both the current version of BS EN 1991-1-3 and the Gen2 version. The current UK National Annex helpfully states that exceptional snow load on the ground is not considered to occur in the UK, meaning that certain following clauses are not applied in the UK. The Gen2 version also refers to exceptional conditions, but it is again expected that the UK NA will determine that these do not occur in the UK. The reason is the UK's maritime climate. Snow accumulations in the UK generally result from one single snow event, or a small number from one weather system. In the UK there is not usually an accumulation from several successive snowfalls which build up without melting, which would be an "exceptional snow load on the ground".

## Accidental design situations

The Gen2 version of BS EN 1991-1-3 specifies in clause 4.1(2) that accidental design situations should be considered where exceptional conditions apply. The corollary is that in the absence of exceptional conditions, there are no accidental design situations. All conditions in the UK will be normal (i.e. a persistent design case, subject to the usual partial factors). This is likely to be a surprise to most designers in the UK, who for many years have treated drifted snow (in valleys, behind parapets etc.) as an accidental situation. The background document to the new standard explains that snow loads occur in either "normal" or "exceptional" conditions and confirms that the former Annex B "exceptional snow drifts" are included in the main text as persistent load cases.

## Get my drift?

Another change which will take some time to get used to is a change in terminology. "Drifted" is no longer used and will be known as "unbalanced". The second condition is obviously "balanced" rather than the "undrifted" we might commonly use today. This is to reflect the fact that drifting is only one effect that leads to an unbalanced situation. An unbalanced situation can also result from erosion due to wind, or, with no wind at all, from melting and sliding. The general term "unbalanced" is used to cover all of these effects.

In the UK, we have some experience of "unbalanced" load cases, since the current code requires partial removal of snow from one roof slope of a duopitch frame. The UK NA revises this to require the removal of all snow from the second slope. Many in the UK seem to ignore this load case, but it is in the current code. In the future, the unbalanced load cases will become more important, as described later.

## Changes to UK practice

Currently, most designers consider a uniform snow load and then, as an entirely separate condition, an accidental load case with snow drifted (sorry, an "unbalanced" case) in valleys and behind parapets. In that accidental load case the remainder of the roof has no snow at all. Typical current cases are indicated in Figure 1.

The Gen2 version of the code has what we previously know as the drifted snow *in addition* to the uniform snow load on the roof. This is shown in Figure 2. In the balanced load arrangement on the double span structure, the snow is not necessarily "uniform" over the building – but *potentially* a higher value between the apex of the two spans. The increased snow load shape coefficient between the two apex is to be based on a fixed slope of 30°, and a constant value of 1.0 replacing the exposure coefficient $C_e$. However, the UK National Annex is likely to adopt $C_e$ = 1.0, and the snow load shape coefficient does not vary until the roof is more than 30°. For most steelwork designs therefore, case (i) of Figure 2 will be uniform.

The immediate implication of having drifted snow in addition to the uniform snow is that the load will be increasing, but comparisons are not easy. The maximum intensity of the redistributed snow in the Gen2 code in combination with the uniform snow load, can be *less* than the current drifted snow currently considered in isolation. This conclusion includes the effect of the different partial factors on normal/accidental loads of 1.5 and 1.0. The length of the snow drift also changes. Design loads will change, but it is not straightforward to identify a trend.

## Example of a valley in the current code

Assuming that in Figure 2, the characteristic value of snow load on the ground, $s_k$ = 0.4kN/m², each span is 25m and the roof slope is 6°, then according to Annex B of the current code:

$\mu_1$ = 3.0 and the drift length is 12.5m.

In current practice therefore, the ultimate load from the drift alone (assuming this to be an accidental limit state and using a partial factor of 1.0) is:

2 × 0.5 × 12.5 × 0.4 × 3.0 × 1.0 = 15.0kN per metre of building.

In current practice, a uniform case is also considered. Both Table 5.2 of the current code and the UK NA have $\mu_2$ = 0.8

The ultimate load from the uniform case (over the valley alone) as a persistent combination using a partial factor of 1.5 is:

0.8 × 0.4 × 2 × 12.5 × 1.5 = 12.0kN per metre of building.

In this case in the current code the total design load from the drifted snow exceeds the uniform snow case when considering the valley alone.

## Example valley in the Gen2 code

In the Gen2 code, the uniform case is identical to the current code, assuming the exposure coefficient $C_e$ = 1.0. The snow load shape coefficients are no longer a Nationally Determined Parameter (NDP).

The snow load shape coefficient for the example valley is $\mu_3$=1.04.

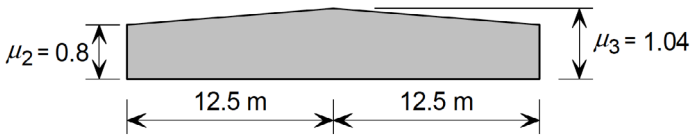


Figure 3: Snow load shape coefficients for the example valley

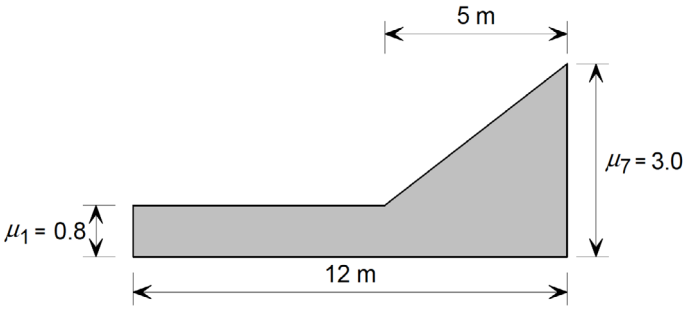


Figure 4: Snow load shape coefficients for the example parapet

The snow load shape coefficients for the valley are shown in Figure 3.

The ultimate load in this redistributed case, taken as a persistent combination using a partial factor of 1.5 is therefore:

1.5 × [0.8 × 0.4 × 25 + (1.04 - 0.8) × 0.4 × 12.5] = 13.8kN per metre of building.

In this example, considering the total load in the valley alone, the Gen2 code still has the redistributed snow as the more onerous case, but not as heavily loaded. The Gen2 code results in an 8% reduction in the design loading, despite the change to a persistent case and partial factor of 1.5.

The background document observes that the current code can lead to snow depths in the valley that exceed the ridge of the roof by several metres, which has been corrected in the Gen2 version. This situation can occur in the current code when $\mu_1 = 5$, but the frame geometry that leads to this value is a rather unusual arrangement – the value of $\mu_1 = 3$ in the previous example is the usual situation.

## Example of a parapet in the current code

Assuming that in Figure 2, the characteristic value of snow load on the ground, $s_k$ = 0.4 kN/m², the building width is 12m and the parapet is 0.75m, then according to the current code:

$\mu_1 = 3.75$ and the drift length is 3.75m.

In current practice therefore, the ultimate load from the drift alone (assuming this to be an accidental limit state and using a partial factor of 1.0) is:

0.5 × 3.75 × 0.4 × 3.75 × 1.0 = 2.81kN per metre of building.

In current practice, a uniform case is also considered. Table 5.2 of the current code specifies $\mu_1 = 0.8$. The current UK NA modifies this in Figure NA.2 such that

$\mu_1 = 1.0$

The ultimate load from the uniform case as a persistent combination using a partial factor of 1.5 is:

1.0 × 0.4 × 12 × 1.5 = 7.2kN per metre of building.

## Example of a parapet in the Gen2 code

In the Gen2 code, $\mu_1 = 0.8$ for a flat roof.

The snow load shape coefficient for the example arrangement is $\mu_7 = 3.0$ and the drift length is 5.0m. The snow load shape coefficients and drift length are shown in Figure 4.

The ultimate load in this redistributed case, taken as a persistent combination using a partial factor of 1.5 is therefore:

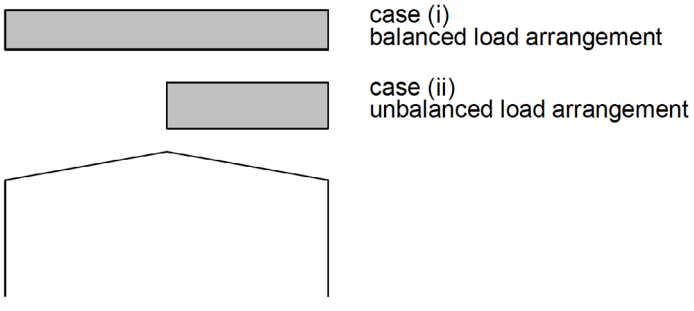


Figure 5: Load arrangements on a duo pitch frame

1.5 × [0.8 × 0.4 × 12 + 0.5 × (3 - 0.8) × 0.4 × 5] = 9.06kN per metre of building.

In this example, Gen2 is 25% more onerous than the current code.

## Unbalanced cases on duo span roofs

The cases to be considered are shown in Figure 5, for a roof with the same slopes each side of the apex. Although Figure 5 looks as though snow has simply been completely removed from one roof slope in case (ii), this is not the complete picture. In the unbalanced cases, there is additional wind-driven snow on the remaining snow (the original "balanced" snow). Whilst snow is being entirely lost from one slope, some snow is blown onto the other, increasing the load.

At typical steel frame roof slopes of 6°, the additional wind driven part of the snow is very small; at 20°, the wind driven part of snow accounts for an additional 12% and at 30°, 20% additional load.

## Snow around PV

One brand new feature is a snow load arrangement for flat roofs with tilted panels – typically photovoltaic (PV) panels. There are many issues with PV on flat roofs, noting that a large part of the industry is concerned not with new build (where the loads should be included in the design) but on fitting PV to existing buildings. It seems highly unlikely that all original designs allowed for PV. The problem becomes more acute when PV panels are ballasted to keep them in place – and will become more onerous again when (quite correctly) drifted snow around and among the panels must be considered.

The snow load shape coefficient over and around the panels depends on the overall height of the installation above the flat roof. PV panels on commercial and industrial buildings tend to be relatively shallow, so the increased snow load over the area is typically 25%. The increased loading extends for a drift length around the area of panels. An additional complication is that where the width of the panel array exceeds twice the height of the panels (every case, one imagines, for shallow sloped panels on a roof) then the front row and end row are treated like a parapet, where the snow load coefficient can easily be double that on a flat roof.

## Snow on low buildings adjacent to taller structures

The Gen2 calculation of the unbalanced load on a low roof abutting a taller structure is undoubtedly quite involved. There is:

- The balanced (currently called "undrifted") snow on the lower roof, plus
- A contribution from snow sliding off the upper roof, plus
- A contribution from wind driven snow off both the lower and upper roofs.

The coefficients and unbalanced arrangement is illustrated in Figure 6 (over the page).

## Climate change

The Gen2 code requires designers to look into the future – in Clause 6.1(3) the code states that "the effects of climate change shall be taken into account". Note the word "shall" – there is no avoiding this requirement. Climate change is to be taken into account by multiplying the characteristic value of snow load on the ground ($s_k$) by a scaling factor $f_{s,cc}$ which is greater or equal to 1.0. The National Annex can give a different approach to account for climate change, or can set a minimum value for the scaling factor.

▸24

▸23 The question then becomes: what scaling factor should be applied, if any? Informative Annex A notes that climate change scenarios may be used to look at future trends, but also notes that "Special care should be taken when predicting climate change effects". One wonders how "special care" should be assessed, and how "special care" differs from the care taken when designing beams and columns.

## Sorry, Margate

One interesting note in the UK NA work is that the current UK snow load map has a small mistake at the very eastern end of Kent. The current NA map shows Margate, Ramsgate and Broadstairs to be in Zone 2 – the area should be Zone 3, which will be corrected in the Gen2 NA.

## Conclusions

Perhaps the most significant change is that the redistributed snow load cases are "normal" or "persistent" cases to be considered and no longer "accidental". As persistent design situations, the redistributed cases are likely to have an impact on the primary structure. In some situations Gen2 is more onerous, in other arrangements, less so.

In common with many Gen2 codes, the changes involve a different calculation process to determine the outputs – in this case the snow load shape coefficients and drift lengths. Software provided by manufacturers of secondary steelwork and used to verify purlins under unbalanced ("drifted") conditions will need revision.

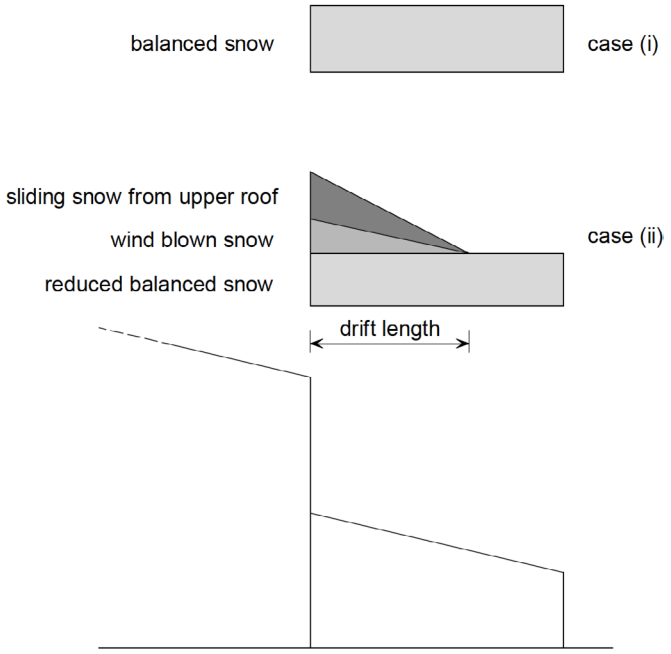


Figure 6: Snow load arrangement on lower structures abutting taller structures

## Current activities

A group of interested individuals is meeting to try and determine what should be presented in the UK National Annex, though the opportunity for national choice is limited and data to make an informed decision is scarce. One of the most important pieces of information is the snow zone map, where it is hoped that the Meteorological Office will assist. The UK NA to BS EN 1991-1-3 is due to be published for public comment later in 2026. ■

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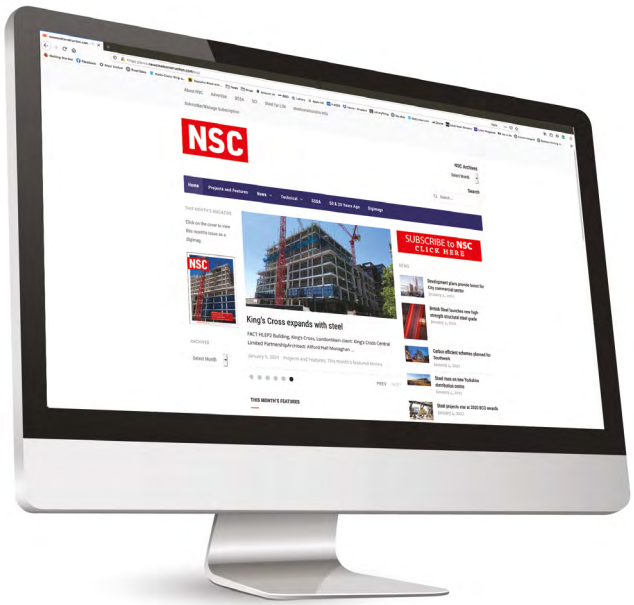


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# AD 553:
# Provision of sprinklers and fire compartments in single-storey buildings

The need to provide so-called Constrado (moment-resisting) bases to perimeter columns of single-storey buildings, when the wall is (or could become) sufficiently close to an adjacent building, is widely understood. In the event of fire, the building may collapse, but the perimeter wall must remain standing to provide a fire barrier for the adjacent property. It does this by acting as a cantilever. This note considers the provision of sprinklers to prevent the possible building collapse, and the design of internal walls used to separate the volume of a single building into a number of separate fire compartments.

## Provision of sprinklers and compartmentation

Attention is drawn to Table 8.1 of *Approved Document B* (*AD B*), *volume 2*, and its differentiation between 'industrial' and 'storage' buildings (readers should check equivalent guidance for use in Wales, Scotland and Northern Ireland as the guidance given below may not apply). There are two height measurements within this table. The height of the floor of the top storey above ground level is used for multi-storey buildings, but for single-storey buildings there is an alternative definition of 'maximum height' (Table 8.1 Note 5). This considers the compartment height, and is stated as being measured from finished floor level to the underside of the roof or ceiling.

Although the table makes no mention of mezzanines, it is worth noting that the introduction of a mezzanine, when it is of considerable size, can alter the defined number of storeys in a building. Reference should be made to the definition of 'storey' in *AD B volume 1 & 2* Appendix A for more information.

### 'Storage' buildings:

For single-storey 'storage' buildings the table notes that for a 'maximum height' below 18m, the maximum compartment size is limited to 20,000m² when there are no sprinklers. If the 'maximum height' of a 'storage' building exceeds 18m, and there are no sprinklers, the compartment size limit is noted as N/A. The table suggests that 'storage' buildings have no limit to compartment size when sprinklers are provided, whatever the height. One interpretation of all this would be that you cannot have a 'storage' building above 18m with no sprinklers. Another interpretation could be simply that the table gives no guidance for such buildings.

### 'Industrial' buildings:

For single-storey 'industrial' buildings below 18m there are no compartment size limits, whether or not sprinklers are provided. The table is however confusing because the N/A referring to compartment size for 'industrial' buildings over 18m, with or without sprinklers, is believed to be because single-storey industrial buildings of that height were not considered by the authors to be likely.

The meanings of N/As in the table therefore appear to be different, and are certainly unclear. Remembering that this is an Approved Document, not the Regulations themselves, it can be concluded that the only guidance for single-storey buildings exceeding 18m to the haunch requires the provision of sprinklers. A growing number of 'mega sheds' could fall into this category, in which case the structure for such buildings should be designed to support the weight of the sprinkler system, and sprinklers should be provided in order to comply with this guidance.

Although there will be an additional cost, a distinct benefit of providing sprinklers is that, should there be a requirement to divide the internal volume into a number of separate spaces, either at first build or retrospectively (including when fit-out is considered after structural design), non-load bearing partitions could be used to achieve this purpose. Being merely partitions, they would not need fire resistance. They would need deflection heads able to accommodate the potentially substantial movements of the structural members above them, but they would not need to accommodate the large deformations associated with the fire condition. Load bearing partitions could also be used, but their overall structural implications would need to be taken into account (as discussed below).

## Provision of compartment walls

For single-storey 'storage' buildings with a 'maximum height' below 18m a compartmentation strategy, without sprinklers, would be possible to subdivide a larger compartment to meet the 20,000m² limit, or to provide separate units within such a building.

This could be achieved through the provision of internal compartment walls, used to prevent fire spread from one part of the building to another. Unlike a boundary wall, the compartment wall, which will become one of the perimeter walls of the surviving compartment, must be able to support the loads resulting from not only the potentially collapsed structure on one side of it, but also the remaining structure on the other side. As such, this cannot be an entirely non-load-bearing wall, and must be properly designed as part of the overall structure in its post-fire condition. The purpose of such a wall could include not only load bearing resistance but also the other attributes associated with a compartment wall, namely ensuring integrity and insulation criteria are satisfied for the required duration. That would be the case if the wall divided the building into parts used for different purposes.

The lateral loads from the collapsing side of the structure are likely to be considerable and must be resisted by a competent structural arrangement to hold the top of the compartment wall in place. The measures to restrain the top of the wall will probably involve bracing in the plane of the roof, transferring force to the foundations on the 'protected' side. The possibility of fire (separately) on either side of the wall may need to be considered.

The need to restrain the top of a compartment wall in the event of a fire means that the wall should ideally be located on the line of a primary frame. Compartment walls parallel to the apex of a frame are complex and should be avoided if possible – the entirety of the structural frame is likely to need protection. In multi-span frames, longitudinal compartment walls should ideally be located on the valley lines.

If a compartment wall falls between frames, the arrangement to restrain the top of the wall will involve protected members spanning between frames and protection to the frame within the fire compartment. The design should consider the effect of fire on any secondary members (typically purlins) which pass through the compartment wall.

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SSDA
1985

# 1 Finsbury Avenue, London EC2

## For Rosehaugh Greycoat Estates Ltd

**AWARD**

**Architects:**
Arup Associates
**Structural Engineers:**
Arup Associates
**Steelwork Contractors:**
Graham Wood Structural Limited

**Judges' Comments:**
**The best design techniques for the steel frame, floor construction and fire protection, have been used to create a most attractive, efficient and quickly constructed building.**

The building is the first of a three phase office development totalling about 50,000 square metres. It contains 25,000 square metres of rentable office space as well as a small leisure centre with sports facilities.

Eight storeys high, with stepped back landscaped terraces down the long sides at the fifth and sixth floor levels, the building is planned around a full height central atrium space capped with a large glazed dome. Two separate circulation cores give access to large office floor areas of over 3,000 square metres each. Generally, the building is designed to benefit as much as possible from natural daylight, while at the same time being very economical in its use of energy with external shading devices to protect the building from the effects of solar gain.

The client's brief required a design for the building which was efficiently planned, functional, cost effective and of high quality to attract potential tenants in a highly competitive letting market. Part of the solution to this brief was the need for an assured and early completion of the building.

The choice of steel as the material for the structural frame reflects this need and it was designed using universal beam and column sections in Grades 43B and 50B steel. To achieve maximum economy the design was based on a simple rectilinear form with repetitive elements and bolted connections using a common size of M20 grade 8.8 bolts. Horizontal stability is achieved by diagonally braced frames in the core areas. An early decision was taken to commence the steel frame columns at pile cap level and they were fabricated and erected in 3 storey high lifts. The beams are designed to act compositely with the concrete floor slabs 130mm thick overall, constructed on 1.1 mm profiled steel sheeting spanning 3.0m and using a lightweight aggregate 30N/sq.mm pumped concrete mix. The concrete slab acts compositely with the profiled steel sheeting as well as the frame beams. Shear connections to the steel beams were achieved by 100mm long 20mm diameter studs.

The steel frame within the internal air conditioned office environment has not been treated other than by light cleaning before fabrication. Outside the building envelope steel members were cased in concrete and wherever possible beams were pre-encased at the fabrication works. Fire protection to steelwork above the suspended ceiling is provided by a sprayed vermiculite cement whilst within the habitable areas it is protected by steel sheet faced boarding. Corrosion protection is generally a straightforward paint specification based on a zinc chromate primer with white gloss paint finish. Inaccessible areas received two coats of bitumastic paint or are protected by butyl rubber sheet.

The atrium roof structure is an octagonal sided dome of rectangular hollow section steelwork. The steelwork and glazing design were integrated with all glazing bars as structural members which allowed smaller steel sections lei be used to create a spiders web effect. The steelwork of the roof is fully welded to form a continuous dome. Maintenance of the underside of the roof is carried out from a rotating tubular steel gantry with mesh sides which can be wound around a circular rail by hand. The centre support hanger has two thrust bearings to form a maintenance free pivot.

The early completion of the external cladding and roofing, together with maximum fabrication off site, was also seen as a very important part of the fast track approach in the design of the cladding. An additional requirement was that it should be heated to counteract the perimeter heat losses to the air conditioned space. The solution to these problems was found to be bay width by storey height elements of cladding which could be erected as single units. These were fabricated at works using 120mm x 60mm RHS as a structural frame. The RHS acts as the heating surface and waterway for the low pressure hot water heating system. The steel staircases were fabricated offsite in specially designed folded plate pans with 16mm thick flat stringers. These were erected at the same time as the main frame to aid access for construction operatives with the pans subsequently being filled with concrete.

When the future phases are constructed, an additional open 'atrium' will have been created to enhance the existing pedestrian route. This new intimate area, typical of the spaces found in the City of London, will be surrounded by various shops, restaurants and pubs which are included as a part of the development.

The scheme was approved in March 1982, construction began in December 1982 and the building was completed in September 1984. The steel frame contains 1,500 tonnes of steel erected in 13 weeks and 32,000m$^2$ of steel composite floors. The total cost was approximately £20 million.

Originally published in BCSA NEWS, February 1986

RQSC | The Register of Qualified Steelwork Contractors Scheme **Buildings**

# Steelwork contractors for buildings

BCSA

The Register of Qualified Steelwork Contractors Scheme for Buildings (RQSC – Buildings) is open to any Steelwork Contractor who has a fabrication facility within the UK or European Union.

Applicants may be registered in one or more Buildings category to undertake the fabrication and the responsibility for any design and erection of:

- **C** Heavy industrial platework for plant structures, bunkers, hoppers, silos etc
- **D** High rise buildings (offices etc over 15 storeys)
- **E** Large span portals (over 30m)
- **F** Medium/small span portals (up to 30m) and low rise buildings (up to 4 storeys)
- **G** Medium rise buildings (from 5 to 15 storeys)
- **H** Large span trusswork (over 20m)
- **J** Tubular steelwork where tubular construction forms a major part of the structure
- **K** Towers and masts
- **L** Architectural steelwork for staircases, balconies, canopies etc
- **M** Frames for machinery, supports for plant and conveyors
- **N** Large grandstands and stadia (over 5000 persons)
- **Q** Specialist fabrication services (eg bending, cellular/castellated beams, plate girders)
- **R** Refurbishment
- **S** Lighter fabrications including fire escapes, ladders and catwalks

**FPC** Factory Production Control certification to BS EN 1090-1
1 – Execution Class 1 2 – Execution Class 2
3 – Execution Class 3 4 – Execution Class 4

**BIM** BIM Level 2 assessed

**QM** Quality management certification to ISO 9001

**SCM** Steel Construction Sustainability Charter
● = Gold ● = Silver, ● = Bronze, ● = Certificate

Notes
(1) Contracts which are primarily steelwork but which may include associated works. The steelwork contract value for which a company is pre-qualified under the Scheme is intended to give guidance on the size of steelwork contract that can be undertaken; where a project lasts longer than a year, the value is the proportion of the steelwork contract to be undertaken within a 12 month period.

Where an asterisk (*) appears against any company's classification number, this indicates that the assets required for this classification level are those of the parent company.

| BCSA steelwork contractor member | Tel | C | D | E | F | G | H | J | K | L | M | N | Q | R | S | QM | FPC | BIM | SCM | Guide Contract Value (1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A C Bacon Engineering Ltd | 01953 850611 | | | ● | ● | ● | ● | | | | ● | | | ● | | ✔ | 2 | | | Up to £6,500,000 |
| Adey Steel Ltd | 01509 556677 | | | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | ● | ✔ | 3 | | ● | Up to £5,000,000 |
| Adstone Construction Ltd | 01905 794561 | | | ● | ● | ● | ● | ● | | | | | | | | ✔ | 2 | ✔ | ● | Up to £3,400,000 |
| AJ Engineering & Construction Services Ltd | 01309 671919 | | | ● | ● | | ● | | ● | ● | ● | | | ● | ● | ✔ | 4 | | ● | Up to £3,400,000 |
| Angle Ring Company Ltd | 0121 557 7241 | | | | | | | | | | | | ● | | | ✔ | 4 | | | Up to £1,200,000 |
| Arminhall Engineering Ltd | 01799 524510 | ● | | | ● | ● | | ● | | ● | ● | | | ● | ● | ✔ | 2 | | ● | Up to £2,400,000 |
| Arromax Structures Ltd | 01623 747466 | | | ● | ● | ● | ● | ● | ● | ● | ● | | | | ● | | 2 | | | Up to £1,200,000 |
| ASD Westok Ltd | 0113 205 5270 | ● | ● | ● | ● | ● | ● | | | ● | ● | ● | ● | | ● | ✔ | 4 | | ● | Up to £6,500,000 |
| ASME Engineering Ltd | 020 8966 7150 | ● | | ● | ● | ● | | ● | ● | ● | ● | | ● | ● | ● | ✔ | 4 | | ● | Up to £6,500,000 |
| Atlasco Constructional Engineers Ltd | 01782 564711 | | | ● | ● | ● | ● | | | ● | ● | | | ● | ● | ✔ | 2 | | | Up to £1,200,000 |
| BD Structures Ltd | 01942 817770 | | | ● | ● | ● | ● | | | | ● | ● | | ● | ● | ✔ | 3 | ✔ | ● | Up to £2,400,000 |
| Barnshaw Section Benders Ltd | 0121 557 8261 | | | | | | | | | | | | ● | | | ✔ | 4 | | | Up to £1,200,000 |
| BHC Ltd | 01555 840006 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ✔ | 4 | ✔ | ● | Above £10,000,000 |
| Billington Structures Ltd | 01226 340666 | | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | ● | | ✔ | 4 | ✔ | ● | Above £10,000,000 |
| Bourne Group Ltd | 01202 746666 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✔ | 4 | ✔ | ● | Above £10,000,000 |
| Briton Fabricators Ltd | 0115 963 2901 | ● | | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ✔ | 4 | | ● | Up to £6,500,000 |
| Cairnhill Structures Ltd | 01236 449393 | ● | | | ● | ● | ● | ● | ● | | | | | | ● | ✔ | 4 | | ● | Up to £6,500,000 |
| Caunton Engineering Ltd | 01773 531111 | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | | ● | ● | ✔ | 4 | ✔ | ● | Above £10,000,000 |
| Cementation Fabrications | 0300 105 0135 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✔ | 3 | | ● | Up to £10,000,000 |
| CMF Ltd | 020 8844 0940 | | | | ● | | ● | ● | | ● | ● | | | | ● | ✔ | 4 | | | Up to £6,500,000 |
| Coventry Construction Ltd | 024 7646 4484 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ✔ | 4 | | | Up to £2,400,000 |
| D H Structures Ltd | 01785 246269 | | | ● | ● | | ● | | | | ● | | | | | | 2 | | | Up to £600,000 |
| Duggan Steel | 00 353 29 70072 | | ● | ● | ● | ● | ● | ● | | | ● | | | | | ✔ | 4 | | | Above £10,000,000 |
| D Hughes Welding & Fabrication Ltd | 01248 421104 | | | | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ✔ | 4 | | | Up to £600,000 |
| ECS Engineering Services Ltd | 01773 860001 | ● | | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | ● | ✔ | 4 | | ● | Up to £3,400,000 |
| Elland Steel Structures Ltd | 01422 380262 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ✔ | 4 | ✔ | ● | Up to £10,000,000 |
| Embrace Steel Group Ltd | 01748 810598 | ● | ● | ● | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ✔ | 4 | | | Up to £10,000,000 |
| EvadX Ltd | 01745 336413 | | ● | ● | ● | ● | ● | ● | | ● | ● | ● | | | ● | ✔ | 3 | | ● | Up to £5,000,000 |
| Four-Tees Engineers Ltd | 01489 885899 | ● | | ● | ● | | ● | ● | ● | ● | ● | | ● | ● | ● | ✔ | 3 | | ● | Up to £3,400,000 |
| Fullpen Fabrications Ltd | 0203 6335586 | ● | | ● | ● | ● | ● | | | ● | ● | | | | ● | | 3 | | | Up to £500,000 |
| **BCSA steelwork contractor member** | **Tel** | **C** | **D** | **E** | **F** | **G** | **H** | **J** | **K** | **L** | **M** | **N** | **Q** | **R** | **S** | **QM** | **FPC** | **BIM** | **SCM** | **Guide Contract Value (1)** |

| BCSA steelwork contractor member | Tel | C | D | E | F | G | H | J | K | L | M | N | Q | R | S | QM | FPC | BIM | SCM | Guide Contract Value (1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G & L Environmental Ltd | 01634 252288 | | | | | | | | | ● | ● | | | ● | ● | ✔ | 3 | | | Up to £500,000 |
| G.R. Carr (Essex) Ltd | 01286 535501 | ● | | ● | ● | | | ● | | | ● | | | ● | ● | ✔ | 4 | | | Up to £1,200,000 |
| Gorge Fabrications Ltd | 0121 522 5770 | | | | ● | ● | ● | ● | | ● | ● | | | ● | ● | ✔ | 3 | | | Up to £1,200,000 |
| H Young Structures Ltd | 01953 601881 | | | ● | ● | ● | ● | ● | | | ● | | | ● | ● | ✔ | 4 | ✔ | ● | Up to £3,400,000 |
| Had Fab Ltd | 01875 611711 | ● | | | ● | | ● | ● | ● | ● | ● | | ● | ● | ● | ✔ | 4 | | | Up to £6,500,000 |
| HBE Services Ltd | 01525 854110 | | | | ● | ● | | | | ● | | | | ● | ● | ✔ | 3 | | | Up to £1,200,000 |
| Hescott Engineering Company Ltd | 01324 556610 | | | ● | ● | ● | ● | ● | | ● | | | | | ● | ✔ | 2 | | | Up to £3,400,000 |
| Hillcrest Structural Steel Ltd | 023 8064 1373 | | | ● | ● | ● | ● | ● | | ● | ● | | | ● | ● | ✔ | 3 | | ● | Up to £3,400,000* |
| Intersteels Ltd | 01322 337766 | ● | | | ● | ● | ● | ● | ● | | | | ● | ● | ● | ✔ | 3 | ✔ | | Up to £5,000,000 |
| Jamestown Manufacturing Ltd | 00 353 45 434 288 | | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | | | ✔ | 4 | | | Up to £10,000,000 |
| Kiernan Structural Steel Ltd | 00 353 43 334 1445 | | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ✔ | 4 | ✔ | ● | Above £10,000,000 |
| Leach Structural Steelwork Ltd | 01995 642000 | | | ● | ● | ● | ● | ● | | | ● | | | | | ✔ | 3 | | ● | Up to £6,500,000 |
| Legge Steel (Fabrications) Ltd | 01592 205320 | | | ● | ● | | | | | ● | ● | | | ● | ● | | 2 | | | Up to £600,000 |
| Littleton Steel Ltd | 01934 311670 | | | ● | ● | ● | ● | ● | | ● | ● | | | ● | ● | ✔ | 3 | | | Up to £1,200,000 |
| Loaninghill Fabrication Company Ltd | 01506 858466 | | | | ● | | | ● | ● | ● | ● | | | ● | ● | | 3 | | | Up to £600,000 |
| M Hasson & Sons Ltd | 028 2957 1281 | | | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | ● | ✔ | 4 | | ● | Up to £1,400,000 |
| M.J. Patch Engineering Ltd | 01275472279 | | | | ● | | | | | ● | ● | | | ● | ● | ✔ | 3 | | | Up to £600,000 |
| M&S Engineering Ltd | 01461 40111 | | | | ● | | ● | | ● | ● | ● | | ● | | ● | ✔ | 3 | | | Up to £2,400,000 |
| Mackay Steelwork & Cladding Ltd | 01862 843910 | | | ● | ● | | ● | | | ● | ● | | | ● | ● | ✔ | 4 | | ● | Up to £2,400,000 |
| Midland Structures Limited | 01384 411201 | | | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ✔ | 3 | | | Up to £5,000,000 |
| Murphy International Ltd | 00 353 45 431384 | ● | | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | ● | ✔ | 4 | | ● | Up to £6,500,000 |
| Nationwide Structures Ltd | 01924365883 | | | ● | ● | ● | ● | | | | ● | | | ● | | ✔ | 4 | | | Up to £10,000,000 |
| Newbridge Engineering Ltd | 01429 866722 | ● | ● | ● | ● | ● | ● | ● | | | ● | ● | | | | ✔ | 4 | | ● | Up to £2,400,000 |
| North Lincs Structures | 01724 855512 | | | ● | ● | | | | | ● | | | | | ● | ✔ | 2 | | | Up to £600,000 |
| Painter Brothers Ltd | 01432 374400 | | | | ● | | | | ● | ● | ● | | | ● | ● | | 3 | | | Up to £5,000,000* |
| Peter Marshall (Steel Stairs) Ltd | 0113 307 6730 | | | | ● | ● | | | | ● | ● | | | | ● | ✔ | 3 | | | Up to £2,400,000* |
| PMS Fabrications Ltd | 01228 599090 | | | ● | ● | ● | ● | | ● | ● | ● | | | ● | ● | | 3 | | | Up to £3,400,000 |
| REIDsteel | 01202 483333 | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ✔ | 4 | | ● | Above £10,000,000 |
| SAH Luton Ltd | 01582 805741 | | | ● | ● | ● | | | | ● | | | | ● | ● | | 2 | | | Up to £600,000 |
| Severfield plc | 01845 577896 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✔ | 4 | ✔ | ● | Above £10,000,000 |
| Shaun Hodgson Engineering Ltd | 01553 766499 | ● | | ● | ● | | ● | | | ● | ● | | | ● | ● | ✔ | 3 | | | Up to £1,200,000 |
| Shipley Structures Ltd | 01400 251480 | | ● | ● | ● | ● | ● | | ● | ● | ● | | | ● | ● | ✔ | 3 | | | Up to £2,400,000 |
| Snashall Steel Fabrications Co Ltd | 01300 345588 | | | ● | ● | ● | ● | ● | | | ● | | | ● | ● | ✔ | 3 | ✔ | ● | Up to £3,400,000 |
| Southern Fabrications (Sussex) Ltd | 01243 649000 | | | | ● | ● | | | | ● | ● | | | ● | ● | ✔ | 2 | | | Up to £1,200,000 |
| Stage One Creative Services Ltd | 01423 358001 | | | | ● | | ● | ● | ● | ● | ● | | ● | | | ✔ | 2 | | | Up to £6,500,000 |
| Steel & Roofing Systems | 00 353 56 444 1855 | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ✔ | 4 | | | Up to £10,000.000 |
| TSI Structures Ltd | 01603 720031 | | | ● | ● | ● | ● | ● | | | ● | | | ● | | | 2 | ✔ | | Up to £3,400,000 |
| W I G Engineering Ltd | 01869 320515 | | | | ● | | | | | ● | ● | | | ● | ● | ✔ | 2 | | ● | Up to £600,000 |
| Walter Watson Ltd | 028 4377 8711 | | | ● | ● | ● | ● | ● | | | | ● | | | | ✔ | 4 | | ● | Above £10,000,000 |
| Westbury Park Engineering Ltd | 01373 825500 | ● | | ● | ● | ● | ● | ● | ● | ● | ● | | | | ● | ✔ | 4 | | ● | Up to £1,200,000 |
| William Haley Engineering Ltd | 01278 760591 | | | ● | ● | ● | ● | | | | ● | | ● | | | ✔ | 4 | | | Up to £6,500,000 |
| William Hare Ltd | 0161 609 0000 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✔ | 4 | ✔ | ● | Above £10,000,000 |

| Non BCSA member | Tel | C | D | E | F | G | H | J | K | L | M | N | Q | R | S | QM | FPC | BIM | SCM | Guide Contract Value (1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eden Fabrications | 02825 821000 | | | ● | ● | ● | ● | ● | | ● | ● | | ● | | ● | ✔ | 3 | | | Up to £1,200,000 |
| **Non BCSA member** | **Tel** | **C** | **D** | **E** | **F** | **G** | **H** | **J** | **K** | **L** | **M** | **N** | **Q** | **R** | **S** | **QM** | **FPC** | **BIM** | **SCM** | Guide Contract Value (1) |

RQSC | The Register of Qualified Steelwork Contractors Scheme **Bridgeworks**

# Steelwork contractors for bridgeworks

The Register of Qualified Steelwork Contractors Scheme for Bridgeworks (RQSC – Bridgeworks) is open to any Steelwork Contractor who has a fabrication facility within the UK or European Union.

BCSA

Applicants may be registered in one or more category to undertake the fabrication and the responsibility for any design and erection of:

- **FB** Footbridges
- **CF** Complex footbridges
- **SG** Sign gantries
- **PG** Bridges made principally from plate girders
- **TW** Bridges made principally from trusswork
- **BA** Bridges with stiffened complex platework (eg in decks, box girders or arch boxes)
- **CM** Cable-supported bridges (eg cable-stayed or suspension) and other major structures (eg 100 metre span)
- **MB** Moving bridges
- **SRF** Site-based bridge refurbishment
- **FRF** Factory-based bridge refurbishment
- **AS** Ancilliary structures in steel associated with bridges, footbridges or sign gantries (eg grillages, purpose-made temporary works)
- **QM** Quality management certification to ISO 9001
- **FPC** Factory Production Control certification to BS EN 1090-1
  1 – Execution Class 1  2 – Execution Class 2
  3 – Execution Class 3  4 – Execution Class 4
- **BIM** BIM Level 2 compliant
- **SCM** Steel Construction Sustainability Charter
  ● = Gold ● = Silver ● = Bronze ● = Certificate

**Notes**

(1) Contracts which are primarily steelwork but which may include associated works. The steelwork contract value for which a company is pre-qualified under the Scheme is intended to give guidance on the size of steelwork contract that can be undertaken; where a project lasts longer than a year, the value is the proportion of the steelwork contract to be undertaken within a 12 month period.

Where an asterisk (*) appears against any company's classification number, this indicates that the assets required for this classification level are those of the parent company.

| BCSA steelwork contractor member | Tel | FB | CF | SG | PG | TW | BA | CM | MB | SRF | FRF | AS | QM | FPC | BIM | NHSS 19A | NHSS 20 | SCM | Guide Contract Value (1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adey Steel Ltd | 01509 556677 | ● | ● | ● | ● | ● | ● | | | ● | ● | ● | ✓ | 3 | | | ✓ | ● | Up to £3,400,000 |
| AJ Engineering & Construction Services Ltd | 01309 671919 | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | | | ● | Up to £3,400,000 |
| ASD Westok Ltd | 0113 205 5270 | ● | | ● | ● | | | | | | | ● | ✓ | 4 | | | | ● | Up to £6,500,000 |
| Beaver Bridges Ltd | 01204 668773 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | | ✓ | | Up to £6,500,000 |
| BHC Ltd | 01555 840006 | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | ✓ | 4 | ✓ | | | ● | Up to £3,400,000 |
| Billington Structures Ltd | 01226 340666 | ● | | ● | ● | ● | ● | ● | ● | | | ● | ✓ | 4 | ✓ | ✓ | ✓ | ● | Above £10,000,000 |
| Bourne Group Ltd | 01202 746666 | ● | | ● | ● | ● | | | | ● | | ● | ✓ | 4 | ✓ | | ✓ | ● | Above £10,000,000 |
| Briton Fabricators Ltd | 0115 963 2901 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | | ✓ | ● | Up to £10,000,000 |
| Cairnhill Structures Ltd | 01236 449393 | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ✓ | 4 | | | ✓ | ● | Up to £6,500,000 |
| Cementation Fabrications | 0300 105 0135 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 3 | | | ✓ | ● | Up to £10,000,000 |
| D Hughes Welding & Fabrication Ltd | 01248 421104 | ● | | ● | | ● | | | ● | ● | ● | ● | ✓ | 4 | | | ✓ | | Up to £600,000 |
| ECS Engineering Services Ltd | 01773 860001 | ● | | ● | ● | ● | ● | | ● | | | ● | ✓ | 4 | | | | | Up to £500,000 |
| Four-Tees Engineers Ltd | 01489 885899 | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ✓ | 3 | | | ✓ | ● | Up to £3,400,000 |
| Fullpen Fabrications | 0203 6335586 | ● | ● | ● | ● | ● | ● | | | | | ● | ✓ | 3 | | | ✓ | | Up to £600,000 |
| Jamestown Manufacturing Ltd | 00 353 45 434 288 | ● | ● | ● | ● | ● | ● | | | | | ● | ✓ | 4 | | | ✓ | | Up to £10,000,000 |
| Kiernan Structural Steel Ltd | 00 353 43 334 1445 | ● | | ● | ● | ● | | | ● | | | ● | ✓ | 4 | ✓ | | ✓ | ● | Up to £1,200,000 |
| M&S Engineering Ltd | 01461 40111 | ● | | ● | | ● | ● | ● | | ● | ● | ● | ✓ | 3 | | | | | Up to £2,400,000 |
| M Hasson & Sons Ltd | 028 2957 1281 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | | ✓ | ● | Up to £2,400,000 |
| Millar Callaghan Engineering Services Ltd | 01294 217711 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | | ✓ | | Up to £2,400,000 |
| Murphy International Ltd | 00 353 45 431384 | ● | ● | ● | ● | ● | ● | | | ● | ● | ● | ✓ | 4 | | | ✓ | ● | Up to £6,500,000 |
| Nusteel Structures Ltd | 01303 268112 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | ✓ | ✓ | ● | Up to £6,500,000 |
| REIDsteel | 01202 483333 | ● | | | ● | ● | ● | | ● | | | ● | ✓ | 4 | | | | ● | Up to £10,000,000 |
| Severfield plc | 01845 577896 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | ✓ | ✓ | ✓ | ● | Above £10,000,000 |
| William Hare Ltd | 0161 609 0000 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | ✓ | ✓ | ✓ | ● | Above £10,000,000 |
| **Non-BCSA member** | | | | | | | | | | | | | | | | | | | |
| Allerton Steel Ltd | 01609 774471 | ● | ● | ● | ● | ● | ● | ● | | | | ● | ✓ | 4 | ✓ | | ✓ | ● | Up to £5,000,000 |
| AMCO Giffen | 01226 243413 | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ✓ | 4 | | | ✓ | | Up to £1,200,000 |
| Carver Engineering Services Ltd | 01302 751900 | ● | | ● | ● | ● | ● | | ● | ● | ● | ● | ✓ | 4 | | | ✓ | | Up to £5,000,000 |
| Centregreat Engineering Ltd | 02920 226088 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | ✓ | | | Up to £3,400,000 |
| Cimolai SpA | 01223 836299 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | ✓ | ✓ | ● | Above £10,000,000 |
| CTS Bridges Ltd | 01484 606416 | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ✓ | 4 | | | ✓ | | Up to 1,200,000 |
| Donyal Engineering Ltd | 01207 270909 | ● | | ● | | | | | | ● | ● | ● | ✓ | 3 | | ✓ | ✓ | | Up to £2,400,000 |
| Eiffage Metal | 07511 177815 | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | | ✓ | | Above £10,000,000 |
| Harrisons Engineering (Lancashire) Ltd | 01254 823993 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 3 | | ✓ | ✓ | | Up to £3,400,000 |
| Hollandia Infra BV | +31 (0) 180 519956 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | | | | Above £10,000,000 |
| HS Carlsteel Engineering Ltd | 020 8312 1879 | | | | | | | | | ● | ● | ● | ✓ | 3 | | | ✓ | | Up to £2,400,000 |
| In-Spec Manufacturing Ltd | 01642 210716 | | | ● | | | | | | ● | ● | ● | ✓ | 4 | | ✓ | ✓ | | Up to £2,400,000 |
| J&D Pierce Contracts Ltd | 01505 683724 | ● | ● | | ● | ● | ● | ● | ● | | | ● | ✓ | 4 | | ✓ | ✓ | | Above £10,000,000 |
| Kelly's Welders & Blacksmiths Ltd | 01383 512 517 | | | | | | | | | | | ● | ✓ | 2 | | | ✓ | | Up to £350,000 |
| Lanarkshire Welding | 01698 264271 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | ✓ | ✓ | ● | Up to £5,000,000 |
| Taziker Industrial Ltd | 01204 468080 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 3 | | ✓ | ✓ | ● | Above £10,000,000 |
| Total Steelwork & Fabrication Ltd | 01925 234320 | ● | | ● | | ● | | | | ● | ● | ● | ✓ | 4 | | | ✓ | | Up to £5,000,000 |
| Victor Buyck Steel Construction | 00 32 9 376 2211 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ✓ | 4 | | ✓ | ✓ | ● | Above £10,000,000 |

BCSA

# Stakeholder Members

Stakeholder Members are clients, professional offices, educational establishments etc which support the development of national specifications, quality, fabrication and erection techniques, overall industry efficiency and good practice.

| Company name | Tel |
|---|---|
| Griffiths & Armour | 0151 236 5656 |
| Keiths Welding Limited | 07791 432 078 |
| MMCEngineer Ltd | 01423 855939 |
| National Highways | 0300 123 5000 |

| Company name | Tel |
|---|---|
| Paul Hulme Engineering Ltd | 07801 216858 |
| Sandberg LLP | 020 7565 7000 |
| Solent Commercial Management Limited | 07852 309104 |
| Structural & Weld Testing Services Ltd | 01795 420264 |

| Company name | Tel |
|---|---|
| SUM ADR Ltd | 07960 775772 |
| Thames Welding Ltd | 07912 691704 |

# Industry Members

Industry Members are those principal companies involved in the direct supply to all or some Steelwork Contractor Members of components, materials or products. Industry member companies must have a registered office within the United Kingdom or Republic of Ireland.

**QM** Quality management certification to ISO 9001

**FPC** Factory Production Control certification to BS EN 1090-1
1 Execution class 1 2 Execution class 2
3 Execution class 3 4 Execution class 4

**NHSS** National Highway Sector Scheme

**CA** Conformity Assessment
UKCA and/or CE Marking compliant, where relevant:
**M** manufacturer (products UKCA and/or CE Marked)
**D/I** distributor/importer (systems comply with the CPR)
**N/A** CPR not applicable

**SCM** Steel Construction Sustainability Charter
● = Gold ● = Silver
● = Bronze ● = Certificate

**SfL** Steel for Life Sponsor

## Steel for Life sponsors

| Level | Company name | Sector | Tel | QM | CA | FPC | NHSS | SCM | Website | Email |
|---|---|---|---|---|---|---|---|---|---|---|
| Headline | Barrett Steel Limited | Steel producers and stockholders | 01274 474314 | ✓ | M | 4 | 3B | | https://www.barrettsteel.com | sales@barrettconstructional.com |
| Gold | Cleveland Steel & Tubes Ltd | Steel producers and stockholders | 01845 577789 | ✓ | M | 3 | 3B | | https://www.cleveland-steel.com | sales@cleveland-steel.com |
| Gold | National Tube Stockholders Ltd | Steel producers and stockholders | 01845 577440 | ✓ | D/I | 4 | 3B | | https://nationaltube.co.uk | sales@nationaltube.co.uk |
| Gold | voestalpine Metsec plc | Manufacturing and structural services | 0121 601 6000 | ✓ | M | 4 | | ● | https://www.metsec.com | metsec.plc@voestalpine.com |
| Gold | Wedge Group Galvanizing Ltd | Protective Coatings | 01902 601944 | ✓ | N/A | | | | https://www.wedge-galv.co.uk | info@wedg-galv.co.uk |
| Silver | Barnshaw Section Benders | RQSC Buildings | 0121 557 8261 | ✓ | N/A | 4 | | ● | https://www.barnshaws.com | sectionbending@barnshaws.com |
| Silver | Behringer Ltd (Vernet Behringer) | Manufacturing and structural services | 01296 668259 | | N/A | | | | https://www.behringerltd.co.uk | info@behringerltd.co.uk |
| Silver | FICEP UK Ltd | Manufacturing and structural services | 01924 223530 | | N/A | | | | https://www.ficep.co.uk | info@ficep.co.uk |
| Silver | Hempel | Protective Coatings | 01633 874024 | ✓ | N/A | | | | https://www.hempel.com | sales.uk@hempel.com |
| Silver | Joseph Ash Galvanizing | Protective Coatings | 01246 854650 | ✓ | N/A | | | | https://www.josephash.co.uk | sales@josephash.co.uk |
| Silver | Sherwin Williams Ltd | Protective Coatings | 01204 521771 | ✓ | N/A | | | | http://www.sherwin-williams.com | enquiries@sherwin.com |
| Silver | Voortman UK Ltd | Manufacturing and structural services | +31 (0)548 536 373 | | N/A | | | | https://www.voortman.net/en | info@voortman.net |

## Manufacturing and Structural Services

| Company name | Tel | QM | CA | FPC | NHSS | SCM | SfL |
|---|---|---|---|---|---|---|---|
| Albion Sections Ltd | 0121 553 1877 | ✓ | M | 4 | | | |
| Behringer Ltd (Vernet Behringer) | 01296 668259 | | N/A | | | | |
| Cast Connex UK Ltd | 01416 806 3521 | ✓ | M | | | | |
| Cellbeam Ltd | 01937 840600 | ✓ | M | 4 | 20 | | |
| Construction Metal Forming Ltd | 01495 761080 | ✓ | M | 3 | | | |
| Duggan Profiles & Steel Service Centre Ltd | 00 353 567722485 | ✓ | M | 4 | | | |
| FICEP UK Ltd | 01924 223530 | | N/A | | | | |
| Farrat Isolevel | 0161 924 1600 | ✓ | N/A | | | | |
| Hadley Industries Plc | 0121 555 1342 | ✓ | M | 4 | | ● | |
| Hi-Span Ltd | 01953 603081 | ✓ | M | 4 | | ● | |
| Kaltenbach Ltd | 01234 213201 | | N/A | | | | |
| Kingspan Structural Products | 01944 712000 | ✓ | M | 4 | | ● | |
| Lincoln Electric (UK) Ltd | 0114 287 2401 | ✓ | N/A | | | | |
| Peddinghaus Corporation UK Ltd | 01952 200377 | | N/A | | | | |
| Tata Steel – ComFlor | 01244 892199 | ✓ | M | 4 | | | |
| Voestalpine Metsec | 0121 601 6000 | ✓ | M | | | ● | ✓ |
| Voortman UK Ltd | +31 (0)548 536 373 | | N/A | | | | ✓ |

## Software

| Company name | Tel | QM | CA | FPC | NHSS | SCM | SfL |
|---|---|---|---|---|---|---|---|
| Autodesk Ltd | 01252456600 | | N/A | | | | |
| Fabsec Ltd | 01937 840641 | | N/A | | | | |
| IDEA StatiCa UK Ltd | 02035 799397 | | N/A | | | | ✓ |
| StruMIS Ltd | 01332 545800 | | N/A | | | | |
| Trimble UK Limited | 0113 887 9790 | | N/A | | | | |

## Site services and installation

| Company name | Tel | QM | CA | FPC | NHSS | SCM | SfL |
|---|---|---|---|---|---|---|---|
| Composite Profiles UK Ltd | 01202 659237 | | D/I | | | | |
| Deconstruct UK Ltd | 02035 799397 | ✓ | N/A | | | | |
| Easi-Edge Ltd | 01777 870901 | ✓ | N/A | | | | |
| Keltbray Holdings Ltd | 0207 643 1000 | ✓ | N/A | | | | |
| MSW UK Ltd | 0115 946 2316 | ✓ | D/I | | | | |
| Prodeck-Fixing Ltd | 01278 780586 | ✓ | D/I | | | | |
| Structural Metal Decks Ltd | 01202 718898 | ✓ | M | 4 | | | |
| Stud-Deck Services Ltd | 01335 390069 | | D/I | | | | |

## Structural fasteners

| Company name | Tel | QM | CA | FPC | NHSS | SCM | SfL |
|---|---|---|---|---|---|---|---|
| Advanced Bolting Solutions Limited | 0116 251 2251 | ✓ | | | | | |
| BAPP Group Ltd | 01226 383824 | ✓ | M | | 3 | | |
| Cooper & Turner Ltd | 0114 256 0057 | ✓ | M | | 3 | | |
| Howmet Fastening Systems Ltd | 01952 290011 | ✓ | M | | | | |
| Lindapter International | 01274 521444 | ✓ | M | | | | |
| Tension Control Bolts Ltd | 01978 661122 | ✓ | M | | 3 | | |

## Steel producers and stockholders

| Company name | Tel | QM | CA | FPC | NHSS | SCM | SfL |
|---|---|---|---|---|---|---|---|
| AJN Steelstock Ltd | 01638 555500 | ✓ | M | 4 | | | |
| Arcelor Mittal Distribution - Scunthorpe | 01724 810810 | ✓ | D/I | 4 | 3B | | ✓ |
| ASD Metals UK | 0113 254 0711 | ✓ | D/I | 4 | 3B | ● | |
| Barrett Steel Limited | 01274 474314 | ✓ | M | 4 | 3B | | ✓ |
| British Steel Ltd | 01724 404040 | ✓ | M | | 3B | | |
| Cleveland Steel & Tube Limited | 01845 577789 | ✓ | M | 3 | 3B | | ✓ |
| Daver Steels Ltd | 0114 261 1999 | ✓ | M | 3 | 3B | | |
| Dent Steel Services (Yorkshire) Ltd | 01274 607070 | ✓ | M | 4 | 3B | | |
| Murray Plate Group Ltd | 0161 866 0266 | ✓ | D/I | 4 | 3B | | |
| National Tube Stockholders Ltd | 01845 577440 | ✓ | D/I | 4 | 3B | | ✓ |
| Rainham Steel Co Ltd | 01708 522311 | ✓ | D/I | 4 | 3B | | |
| Tata Steel – Tubes | 01536 402121 | ✓ | M | | 3B | | |
| The Alternative Steel Co Ltd | 01942 826677 | ✓ | D/I | | | | |

## Protective coatings

| Company name | Tel | QM | CA | FPC | NHSS | SCM | SfL |
|---|---|---|---|---|---|---|---|
| Forward Protective Coatings Ltd | 01623 748323 | ✓ | N/A | | | | |
| Hempel | 01633 874024 | ✓ | N/A | | | | ✓ |
| Highland Metals Ltd | 01343 548855 | ✓ | N/A | | | | |
| International Paint Ltd | 0191 469 6111 | ✓ | N/A | | | | |
| Jack Tighe Ltd | 01302 880360 | ✓ | N/A | | 19A | ● | |
| Joseph Ash Galvanizing | 01246 854650 | ✓ | N/A | | | | ✓ |
| PPG Architectural Coatings UK & Ireland | 01924 354233 | ✓ | N/A | | | | |
| Sherwin-Williams UK Ltd | 01204 521771 | ✓ | N/A | | | | ✓ |
| Vale Protective Coatings Ltd | 01949 869784 | | N/A | | | | |
| Wedge Group Galvanizing Ltd | 01902 601944 | ✓ | N/A | | | | ✓ |



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