Severfield

CREATING BETTER WAYS TO BUILD, FOR A WORLD OF CHANGING DEMANDS

Our projects

81 NEWGATE STREET

LONDON

COMMERCIAL OFFICES

Location:
London

Client:
Pella Real Estate

Architect:
KPF

Engineer:
AKT II

Tonnage:
4,718 tonnes

Completion date:
Ongoing

"Working together in collaboration with early open and honest communication has allowed the project to maximise opportunities and mitigate delays. I look forward to the successful completion of this project and working with Severfield again."

MACE
PROJECT DIRECTOR

ABOUT THE PROJECT

81 Newgate Street highlights Severfield's key role in the 'circular economy' – the project involves the structural redevelopment of an existing building to reuse space and increase its efficiency to develop a 'green' building for the future. Formerly the home of BT, the 1980s structure situated next to the historic St Paul's Cathedral is undergoing a transformation to become one of the most energy-efficient buildings in London.

The redevelopment involves the supply and installation of over 4,700 tonnes of structural steel and around 30,000 square metres of metal decking. The project will increase the original floor area by over 25,000 square metres by adding new floors and filling in the atrium space.

The repurposed building will accommodate new open-plan office space and the top several floors will include decked terrace planted areas, adding to the green credentials and aesthetics of the building overlooking St Paul's Cathedral.

Embracing 'green' principles, the project sets a high bar for sustainability by targeting the 'BREEAM Excellent' rating and 'WELL Gold' standard. The building will be the first 'Net-Zero' office development in London and aims to be 'Paris 2050 proof' on completion. Severfield's role in the project showcases our role in the circular economy and contribution to sustainability in the construction industry by redeveloping and repurposing existing infrastructure, saving on finite resources, and reducing future emissions.

It also highlights the versatility of steel in retrofitting and modernising buildings, with a specific example of a decision to replace concrete piles with steel, which resulted in significant carbon savings.

Where possible during the construction phase, Severfield utilised green vehicles and equipment, such as 'hybrid deckriders' and electric scissor lifts as part of our commitment to reducing emissions.

From the start of the project, our collaboration with Mace (the client) has been exceptional, allowing us to deliver a successful project and contribute to their overall project success.

As the project progresses toward completion, Severfield remains dedicated to delivering a successful and sustainable development at 81 Newgate Street – a green building for the future!


ST. PAUL'S

AESC UK

SUNDERLAND

INDUSTRIAL AND DISTRIBUTION

Location:
Sunderland

Client:
AESC UK

Architect:
RPS

Engineer:
RPS

Contract (package) manager:
Wates Group

Completion date:
Ongoing with variations

ABOUT THE PROJECT

Severfield supplied a significant amount of structural steelwork for AESC UK's cutting-edge battery plant in Sunderland. The state-of-the-art facility will produce their latest generation batteries, enabling the production of around 100,000 electric vehicles annually and creating over 1,000 hi-tech jobs in the UK.

The new Gigafactory based in North East England, forms part of a wider £1bn partnership with Nissan and Sunderland City Council to create EV36Zero, an electric vehicle hub creating a world-first EV manufacturing ecosystem. The Hub brings together electric vehicles, renewable energy, and battery production, setting a blueprint for the future of the automotive industry as it transitions toward Net Zero.

The footprint of the new building measures approximately 380 metres by 220 metres, with a height ranging from 12 to 30 metres. This is equivalent to around 23 football pitches in area.

Working closely with our client, Wates Group, Severfield supplied and erected both hot and cold rolled steel for the main frame and associated structures, all of which included steelwork coated in a combination of primed and fire-protected paint. The fast-track programme was in-part achieved through the use of modules, in which preassembled modular units were delivered to site, saving on-site construction time.

Through strategic planning, effective collaboration, and innovative delivery methods, Severfield played a crucial role in achieving programme success, underpinning our reputation as the UK's leader in structural steelwork.

HS2 CURZON TRIPODS

CURZON STREET, BIRMINGHAM

TRANSPORT INFRASTRUCTURE

Location:
Curzon Street, Birmingham

Client:
HS2

Architect:
Weston Williamson + Partners

Engineer:
Mott MacDonald

Tonnage:
1,088 tonnes

Completion date:
Ongoing

ABOUT THE PROJECT

The Curzon Street Tripods form an integral part of the High-Speed Two (HS2) infrastructure, providing support for a viaduct over the Digbeth Street Canal. The project highlights Severfield's strong expertise in the bridge infrastructure sector.

The project involves the fabrication and installation of four robust weathering tripod support piers, each weighing an impressive 272 tonnes. These structures are specifically designed to carry the weight of the HS2 lines over the Digbeth Branch Canal.

Each pier consists of a heavily stiffened steel base weighing 77 tonnes, with three arms intricately tied together with a Y-frame top. The benefit of the piers is their capacity to support the significant weight of the viaduct, whilst occupying minimal ground space around the historic 19th century Digbeth Canal area.

The weight and size of the tripods made the fabrication process particularly challenging, with a significant amount of planning required. Tandem lifts using two overhead cranes were required at our Lostock site to lift the base nodes onto a trailer for delivery. Due to their size, the structures needed to be delivered in six separate pieces for assembly, and a police escort was required during delivery to the site.

Once on-site, a significant amount of welding was required to assemble the structures using temporary works to hold pieces in place. The temporary works will be recycled and reused where possible to minimise waste and the carbon impact of the construction.

Severfield's involvement in the Curzon Street Tripods project highlights our capacity for innovative solutions, detailed planning, and a sustainable approach to infrastructure development.


MAGNI
Severfield

LUCENT
LONDON

COMMERCIAL OFFICES

Location:
London

Client:
Landsec

Main contractor:
Wates

Architect:
Fletcher Priest Architects

Engineer:
Waterman Structures

Tonnage:
1,500 tonnes

Completion date:
2023

ABOUT THE PROJECT

Severfield contributed to the construction of Lucent, a new 144,000 sq ft building located behind the iconic Piccadilly Lights in central London. The existing island site was made up of multiple properties. Lucent has redeveloped this site to deliver a mixed-use development delivering first-class office spaces, shops, apartments, and a rooftop restaurant.

Rising to a height of 35 metres, Lucent – at One Sherwood Street – is one of the sharpest looking buildings on the block and Severfield is pleased to have played a part in its creation.

The Piccadilly Lights are a major London attraction and the need to keep the lights operational during the construction process created several challenges. We connected our steel through an existing temporary structure to the back frame of the lights, successfully negating the need for hot cutting and welding in close proximity to the 800 sq. metres of LED screens which could potentially cause damage – with only 30 centimetres separating the screens and our team of erectors.

The seven-storey development required 1,500 tonnes of structural steelwork, with intricate designs and adjustments to preserve the historic façades of the surrounding streets. The construction of four suspended floors above existing shops presented further engineering challenges, requiring the assembly of a large truss on-site to support the building's core. The process of lowering the floors from a temporary structure to their permanent position showcased our expertise in innovative construction techniques.

Despite the challenges, Severfield's expertise, meticulous planning, and execution ensured the successful completion of the Lucent project – further solidifying our reputation as the UK's leading structural steel experts.


Coca-Cola

OXFORD HUMANITIES

OXFORD UNIVERSITY

HEALTH AND EDUCATION

Location:
Oxford University

Client:
Oxford University

Main Contractor:
Laing O'Rourke

Architect:
Hopkins

Engineer:
AKT II

Tonnage:
550 tonnes

Completion date:
June 2024

ABOUT THE PROJECT

Severfield contributed to the design and construction of six distinct and individually supported steel structures that will form the basement level of the new Humanities building at Oxford University. The new building will bring together related faculties and institutions and libraries and collections into one home, including space for a 500-seat concert hall and 250-seat lecture theatre.

Severfield used the latest Building Information Modeling (BIM) to create a digital plan and description of every aspect of the build at the planning stage. This required close collaboration with various other contractors, engineers, and architects to integrate the information into one model and allow us to identify and resolve potential issues before they happened.

The varied nature of the design relied on the expertise of our group engineering capabilities and meant steel was fabricated at three different sites; including 180 tonnes of larger assemblies at Lostock, 45 tonnes of Fabsec beams at Dalton, and the rest at Carnaby.

Notably, the project required nine large transfer sections, including three 30-tonne trusses and six 12-tonne box girders. Significant planning for movement orders, transport frames, and on-site logistics was crucial to ensure these sections could be maneuvered within the radius of the crane to position the sections.

Each of the spaces had to be planned and installed in phases to suit the steel frame alongside the concrete walls and roof panels to each area involving a significant amount of coordination and engineering between offsite and onsite teams.

Throughout the project, significant measures were taken to minimise waste and promote sustainability. The project employed a temporary works scheme, utilising standard components where possible to avoid fabricated materials. This approach not only supports resource efficiency but also complimented the client's drive to achieve Passivhaus certification.

Upon completion of the basement levels and the placement of concrete slabs at ground level, the project will progress with the construction of a concrete frame and structure spanning four levels. Our return in April 2024 marked the installation of the steel for the roof plant room, contributing to the overall development of the project.

SEAH MONOPILE FACILITY

TEESWORKS, MIDDLESBROUGH

INDUSTRIAL AND DISTRIBUTION

Location:
Teesworks, Middlesbrough

Client:
SeAH

Architect:
CWA

Engineer:
WSP

Tonnage:
35,000 tonnes

Completion date:
Ongoing

ABOUT THE PROJECT

Severfield is providing an impressive 35,000 tonnes of structural steelwork for the giant monopile factory on Teesside for SeAH Wind, a subsidiary of South Korean steel manufacturer SeAH. Upon completion, this will be the largest monopile facility in the world, measuring an impressive 810 metres by 210 metres, and creating up to 750 direct jobs and a further 1,500 jobs in the supply chain. This superstructure is one of the largest projects we've worked on to date.

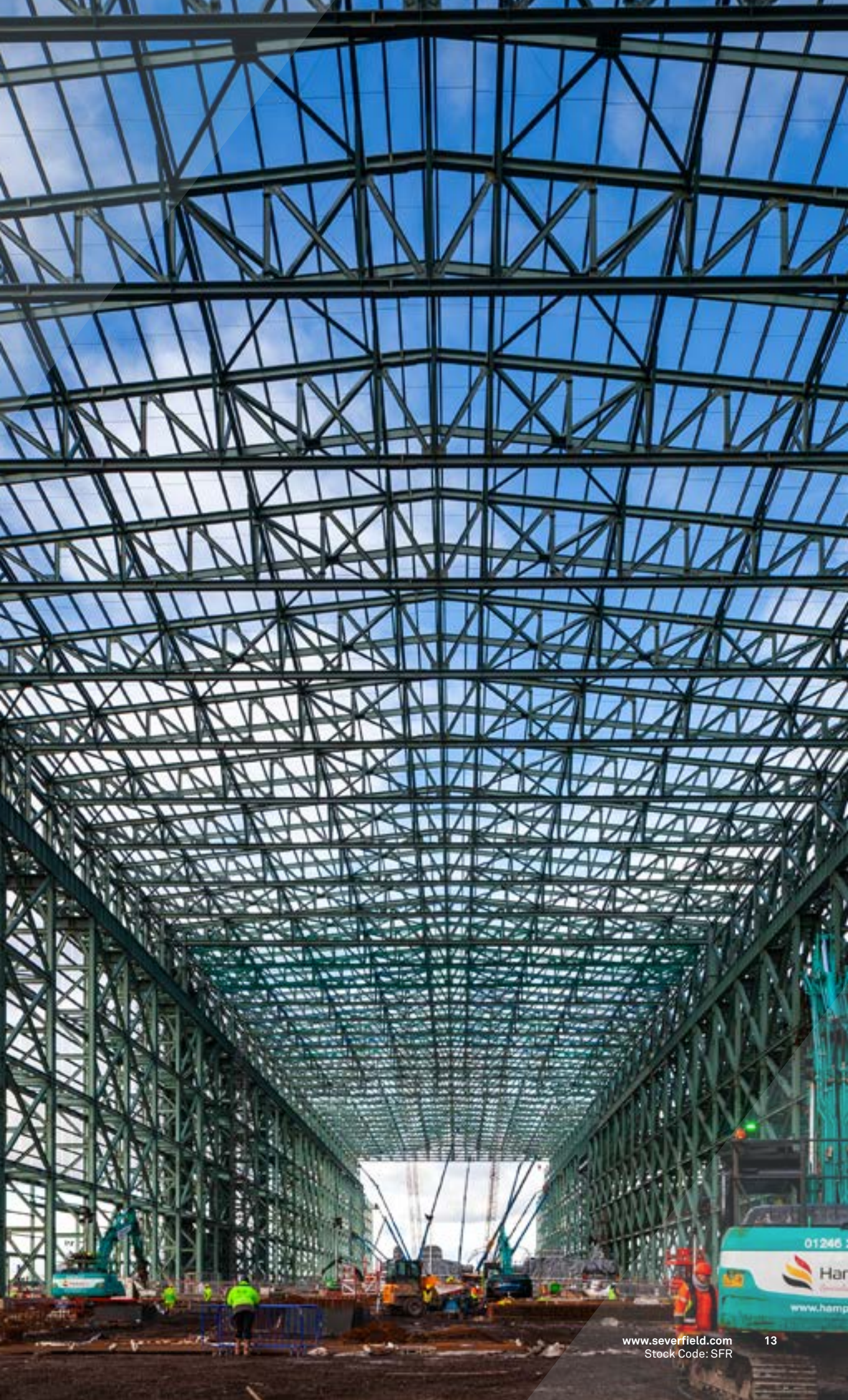
The 115,000 sq metre production facility will be used to produce monopiles up to 120 metres long, 10 to 15.5 metres in diameter, and weighing over 3,000 tonnes. Monopiles are the foundations designed to support offshore wind turbines. Monopiles are vital parts of offshore wind turbines, anchoring them deep beneath the sea. SeAH will fabricate these monopiles, initially starting as flat plates that undergo rolling and welding to create short tubular sections. These sections are then welded together to form the finished monopile.

The client needed an extremely fast-paced project delivery, requiring a tightly controlled connection design and detailing programme. This required output from all our Group fabrication facilities, showing the strength and scale of our group operations.

To manage the scale of the project, Severfield has deployed 150 people to work on-site to ensure everything runs smoothly and so that we meet the ambitious programme. Our site teams are erecting more than 1,000 tonnes of steelwork per week, with as much preassembly being undertaken at ground level where possible to speed up the construction process.

The site teams are also working around the delivery of significant amounts of heavy machinery from Korea, requiring agility to adjust the build sequencing to accommodate these deliveries and maintain the demanding build programme.

This project highlights our ability to deliver projects of this size and complexity with precision and efficiency, despite the tight deadlines and dynamic build environment. As the demand for green energy and infrastructure increases, this project showcases how Severfield can play an important role in delivering similar projects in the future.



SELLAFIELD SRP

SELLAFIELD, CUMBRIA

NUCLEAR

Location:
Sellafield, Cumbria

Client:
Sellafield

Architect:
Mott MacDonald

Engineer:
Sellafield

Tonnage:
2,600 tonnes

Completion date:
July 2025

ABOUT THE PROJECT

The Sellafield Product and Residue Store Retreatment Plant (SRP) project is part of a multi-billion-pound project funded by the Nuclear Decommissioning Authority (NDA) to provide safe long-term storage and processing of nuclear materials. Severfield is trusted to be a part of this complex project, with our scope involving the connection design, fabrication, and erection of a nuclear seismic structure. Upon completion, this facility will be essential in ensuring the safety and security of nuclear materials.

The structure consists of a multi-level internal structure, featuring a robust beam and column frame with minimal internal bracings. To meet specific requirements for the inside of the building, Severfield incorporated secondary steel for the construction of internal partition walls within the main structure. Four levels of external corridors have been designed to facilitate efficient service access. These corridors seamlessly connect to adjacent buildings through link bridges, ensuring smooth access for operational efficiency.

A dedicated plant room structure is allocated for essential plant equipment, playing a crucial role in supporting the overall functionality of the facility. The integration of secondary steel within the plantroom provides additional structural support for the critical components housed within.

Severfield's involvement in this project showcases our expertise in tackling complex engineering challenges and providing high-quality and reliable structures for the nuclear sector.

Severfield

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