

Carbon neutral leisure

FACT FILE

Epping Leisure Centre

Main client: Epping Forest District Council

Architect: Pozzoni Architecture

Main contractor: Pellikaan Construction

Structural engineer: Furness Partnership

Steelwork contractor: Adstone Construction

Steel tonnage: 250t

Aiming to achieve the highest sustainability ratings, Epping's new steel-framed leisure centre is set to provide the Essex town with an economic and wellbeing boost.

The construction of new and replacement leisure centres has for the past decade or so been a buoyant sector, as local authorities up and down the country are keen to improve their available facilities.

More people than ever before are using leisure centres, and a recent report by Sport England (*Moving Communities Impact Report*) confirmed this and also found that leisure facilities are playing an increasingly important role in their communities, providing not just a place to exercise but also somewhere to socialise.

Today's leisure centres are better equipped than their predecessors, and for the most part they contain a comprehensive range of leisure opportunities.

This is the case in Epping, where a new town centre facility is being built. Including a 25m-long swimming pool, a learner pool, sports hall, studios and a gym, the centre is set to be the newest and most energy efficient in the district, supporting the council's aim to become carbon neutral by 2030.

Set to be operated by Places Leisure, the centre will have air-sourced heat pumps and digital technology, as well as incorporating the highest levels of insulation, keeping future energy bills and

carbon emissions as low as possible.

Epping Forest District Council's Cabinet Member for Contracts, Service Delivery and Improvements, Councillor Ray Balcombe says: "As well as delivering on our promise to provide a new centre before (the existing) Hemnall Street facility closes, residents can look forward to wonderful new facilities including Epping's first municipal swimming pools. I'm eager to see it grow and develop into a fantastic resource.

"The new Epping Leisure Centre is an important milestone in the development of the town, bringing many benefits to the whole district. It will help boost the local economy, provide additional employment opportunities, both in the construction phase and once it is open. It will also promote and support a healthier lifestyle and bring more visitors to Epping High Street."

Work started in January 2024, on a site that was previously used as a surface car park. Prior to the main steel frame being erected, Pellikaan Construction completed a 10-month enabling works programme, which included sorting, separating and removing 10,000m³ of soil from the plot.

"We also excavated the site, installed sheet

piling and CFA piles, below ground drainage, and poured 2,400m³ of concrete to form basement floor slabs, retaining walls and shells for the two swimming pools," explains Pellikaan Construction Contracts Manager Marc Janssen.

All of this work was successfully completed, while negotiating a number of challenges. With numerous residential properties close to the site, keeping the neighbours happy was important and has been achieved with regular consultations and limiting the amount of onsite noise.

The biggest challenge was the nature of the site, which is very confined as the leisure centre's footprint occupies almost the entire plot. This meant the work involving various trades, had to be carefully coordinated because of this lack of space.

The site is also bounded by town centre roads along two elevations and they presented a further challenge once the steelwork erection programme started.

The roof beams that span over the sports hall and main swimming pool added another complication. Ordinarily, the 20m-long beams would be easily transportable, but not for this project. They would have presented a load that was too long to get around the surrounding roads, or



Coordination between the various trades has been key, due to the site being very confined.



Part of the steel frame was omitted until a second phase, which allowed the cladding to be installed from within the site's footprint.



In order to negotiate the narrow roads around the site, roof beams had to be spliced and delivered in smaller loads.

"With space at a premium and to make the overall construction programme more efficient, leaving some of the frame to be erected in a second phase gave us the room for the roof cladding to be installed from within the building's footprint."

the tight corner delivery vehicles have to negotiate before reversing into the site's delivery area.

The solution was for Adstone Construction, who have been employed on a design and build contract for the steelwork, to fabricate and deliver each of these beams in two, more manageable, 10m-long sections, which were then spliced together onsite before being lifted into place.

When the steelwork programme got underway, groundworks were still continuing on part of the site, so coordination between the trades was key. This cooperation extended to the latter part of the steel frame installation, as Adstone initially erected both wings of the centre, that contain the

sports hall and main pool, leaving a portion of the central part of the building for a return visit.

"With space at a premium and to make the overall construction programme more efficient, leaving some of the frame to be erected in a second phase gave us the room for the roof cladding to be installed from within the building's footprint," explains Pellikaan Construction Project Manager Neil Buchanan.

Overall, the steelwork forms a large braced frame, spanning three floor levels. The basement, which is deeper towards the rear of the site due to the plot's sloping topography, accommodates the sports hall on one side and pools on the other. In between, are the areas housing plant for the pools as well as an access point for the sports hall.

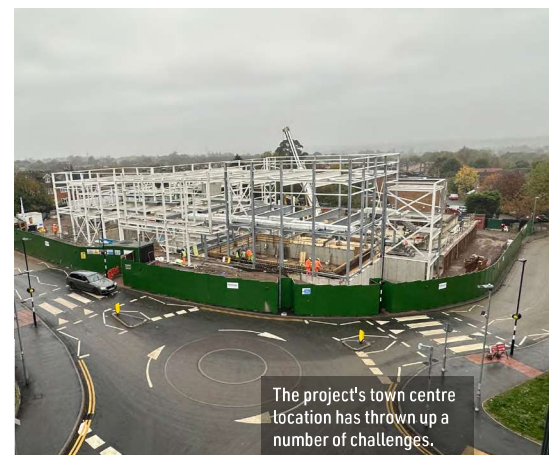
The ground floor will accommodate the main entrance, changing rooms, access to the pools and spectator seating, while above on the uppermost first floor, there will be two studios and a gym.

The first floor of the building has been formed with steel beams supporting metal decking and a concrete topping to create a composite solution. Metal decking has also been used to span an area on top of the sports hall's roof to create an external plant deck. The deck covers around

one-third of the sports hall's covering, with the remainder having a green roof.

The majority of the steel frame has been erected with the aid of one 50t-capacity mobile crane, with a larger 100t-capacity unit brought onto site for the installation of the project's precast lift shaft and staircases.

Aiming to achieve a BREEAM 'Excellent' rating, the Epping Leisure Centre is due to open its doors by the end of year (2025). ■



The project's town centre location has thrown up a number of challenges.