DoverTruss TIMBER ENGINEERING

Calldene Structural Timber Solutions

Triad TIMBER COMPONENTS

Client: **MCS**
Project: **River Park Cricket Pavilion**
Contractor: **Management & Construction Services (MCS)**
Solutions: **Design, supply, delivery and installation**

How Calldene transformed a dated cricket pavilion into an award-winning landmark

Calldene Structural Timber Solutions has delivered a bespoke trussed rafter and Glulam roof for River Park Cricket Pavilion, a landmark community and leisure facility in Winchester. Replacing a small and outdated pavilion, the new building provides a modern, year-round destination for sport, leisure and community use.

The project involved transforming a complex arrowhead-shaped roof design into a practical, buildable timber solution. Working with long spans, low pitches, vaulted interiors and limited internal support, Calldene designed, supplied and installed a bespoke timber roof package that has become one of the pavilion's defining architectural features while supporting its practical, sustainability and community objectives.

The quality of the completed project has since been recognised at the TRA Roofscape Design Awards, where it was named Commercial Project of the Year, celebrating the collaborative design, engineering and craftsmanship behind the roof's successful delivery.

The project

River Park Cricket Pavilion is a new and improved community and leisure facility at River Park Recreation Ground in central Winchester. Replacing a small and dilapidated pavilion, the new building has been designed to support modern cricket while creating a more inclusive, year-round destination for local clubs, schools, residents and visitors. The completed pavilion provides updated changing rooms, a café, indoor social spaces, outdoor terraces and storage facilities, creating a welcoming environment to the community that extends far beyond match days.

The project originated from a community-led ambition to replace the ageing pavilion with a modern facility, capable of supporting the future of cricket while serving the wider community throughout the year. The result is a landmark building that combines sport, leisure and social spaces in one distinctive venue.

Appointed by MCS, Calldene Structural Timber Solutions was responsible for the design, supply and installation of the pavilion's bespoke trussed rafter and Glulam roof. As one of the building's defining architectural features, central to both appearance and functionality, the roof needed to deliver both structural performance and visual impact while supporting the pavilion's long-term sustainability and community objectives. The building's unusual arrowhead-shaped footprint, changing spans and vaulted spaces meant a conventional roof system was not a viable option, requiring a fully engineered timber solution tailored specifically to the project.

The challenge

Designing the roof for River Park Cricket Pavilion presented a series of complex structural and engineering challenges. The building's distinctive arrowhead-shaped footprint meant the roof varied from approximately 22 metres wide at its widest point to just nine metres at the opposite end, creating constantly changing spans and paths. This challenge combined with long spans, low roof pitches, vaulted interiors and limited internal supports, the project demanded far more than a conventional trussed roof solution.

Further complexity came from the building's architectural requirements. The roof incorporated a 2.3-metre cantilever, one-metre overhangs and around 17 structural connections, while also supporting box gutters and accommodating a late design change to include retractable canopies around the pavilion. At the wider end of the building, a standard hip-board arrangement was simply not capable of carrying the required loads or achieving the desired architectural form.

To deliver the architect's vision, Calldene needed to transform an ambitious concept into a practical, buildable timber structure. Every element had to work together to create open, welcoming internal spaces while ensuring the roof could be manufactured, transported and installed safely.

Stephen Fuller, Designer at Calldene: "The pavilion's unusual geometry presented significant design challenges, but also an opportunity to create something truly distinctive. Working closely with MCS and the Ridge design team allowed us to translate the original concept into a practical, buildable timber structure without compromising the architectural vision."

The solution

Calldene Structural Timber Solutions developed a fully bespoke engineered timber roof designed specifically for the unique geometry of the pavilion. Rather than relying on conventional roof construction, the team engineered a coordinated system combining bespoke girder trusses, a large asymmetrical hip truss, Glulam ridge and hip members, and custom steel connections to deliver the required structural performance while preserving the building's open internal layout.

Because of the roof's complexity, Calldene adapted its use of MiTek Pamir to model the structure, despite the software not being intended to visualise projects of this nature. IFC files were also issued for integration into the wider BIM model, allowing MCS, designers and other project stakeholders to review complex junctions, major hangers and connection details before manufacture and installation. This reduced uncertainty and helped identify potential issues long before work reached site.

Close collaboration with stakeholders was central to the project's success. Calldene worked alongside MCS, specialist suppliers and installers throughout the design and construction process, issuing drawings in stages to support ongoing reviews as the roof developed. Off-site manufacture ensured high levels of quality and accuracy, while certified sustainable timber, supported by PEFC and FSC Chain of Custody processes where applicable, helped optimise material use and minimise waste.

The result

The completed roof has become one of the defining features of River Park Cricket Pavilion, combining structural performance with architectural impact. The bespoke timber solution creates large, open internal spaces free from unnecessary columns, helping the pavilion accommodate sporting, social and community activities throughout the year.

By using engineered timber and Glulam elements, Calldene reduced the need for primary steel within the roof while delivering a structure capable of supporting photovoltaic panels as part of the building's long-term sustainability ambitions. Off-site manufacture, digital coordination and detailed planning also improved buildability, reduced site risk and gave the wider project team confidence throughout installation.

Today, River Park Cricket Pavilion stands as a modern community landmark for Winchester. More than simply a sports facility, it provides an inclusive, year-round destination for local clubs, schools, residents and visitors, demonstrating how innovative timber engineering can transform ambitious architectural concepts into practical, sustainable buildings that will serve the community for generations.

“River Park Cricket Pavilion presented a number of complex structural challenges that required close collaboration throughout the project. Calldene worked alongside our team from the earliest design stages, developing practical engineering solutions that remained true to the architect’s vision while ensuring the roof could be manufactured, installed and delivered safely. Their technical expertise, responsiveness and collaborative approach played an important role in the successful delivery of the project.”

Dan Willis, Construction Manager at MCS.

0207 046 0971 | enquiries@calldene.co.uk | calldene.co.uk

Building 1063 Cornforth Drive, Kent Science Park, Sittingbourne, Kent, United Kingdom, ME9 8PX