

## Case study

# Multi-Phase Two-Storey Extensions

Delivered in 7 phases, the project involved 3 separate 2-storey extensions simultaneously, enhancing guest experience, and furniture-proofing the venue for years to come.

The main design challenge was the extremely close proximity of the new pavilion structure to the existing golf facilities. This required the new frame to be engineered to tightly control deflections. A predominantly moment-frame steel structure was adopted for stability, including several long-span members. The extensive curtain walling meant that incorporating vertical bracing was impractical, so horizontal stability was achieved through the stiff diaphragm action provided by a composite metal deck.

The foundation design also required careful consideration to avoid influencing or undermining the adjacent structure while still managing the potential for differential settlement.

Extensive investigations of the existing building were undertaken to confirm that it was adequately supported and that the proposed works would integrate safely and effectively in the final condition.



Location:  
Cottingham



Client:  
Helix CMS



Architect:  
Alessandro Caruso  
Architects



Value:  
Approx £2.5m



Civil  
Engineering

Structural  
Engineering

Engineer/  
Manage/  
Deliver/