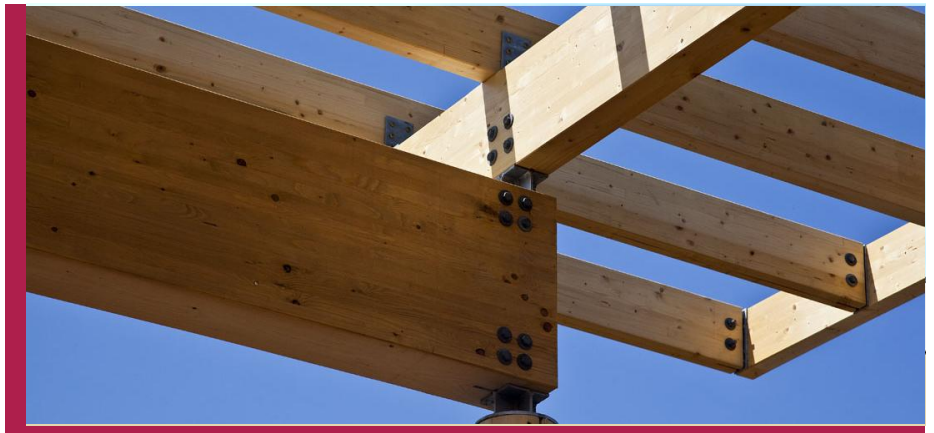


“By using a flexible and industrious approach to the engineering design, we were able to deliver low carbon sustainable solutions for both the structural and drainage aspects of this high profile project proven to be cost-effective for the client and aesthetically pleasing.”

Ian Elliott, Project Director, Pinnacle



ZERO CARBON SUPERMARKET, RAMSEY

World's First Zero Carbon Supermarket

Client: Tesco Stores Limited
Value: £12m



The Project:

A revolutionary, ultra-green supermarket incorporating a series of low carbon initiatives and renewable technologies expected to cancel out the energy consumption from the National Grid and the carbon footprint attributed from construction.

The Challenge:

The need to provide a cost-effective timber frame structure that not only would meet planning and retail requirements but could also be erected quickly and safely without compromising the construction programme.

The Solution:

Pinnacle's close liaison with the design team allowed the relocation of the M&E plant. As a result the building height was reduced and a uniform pitched roof designed for lighter imposed loads was incorporated.

From this Pinnacle designed an economical structural frame utilising smaller internal Y-columns meeting retail requirements and offering substantial savings to the client.

The Challenge:

Poor ground conditions presenting inadequate bearing stratum for the proposed development.

The Solution:

Pinnacle worked closely with the Main Contractor and undertook an extensive 3D terrain modeling exercise. From this, an optimal design solution was established involving lime and cement stabilization to provide the necessary CBR Value for the ground floor slab and car park construction. This allowed existing levels to be matched replacing quarried imported fill.

The Challenge:

The need to provide a sustainable drainage system.

The Solution:

Pinnacle overcame this by using an innovative swale solution which mimics the surrounding ditch network and acts as a hydrocarbon filter. Hydraulic modeling of the system allowed shallow large diameter conduits to channel surface water into the swale preventing deep excavations.