Scott White and Hookins

London
Bedford
Winchester

Project Profile :: Specialist Projects

Christmas Tree, St. Pancras Station

Client: Total Solutions

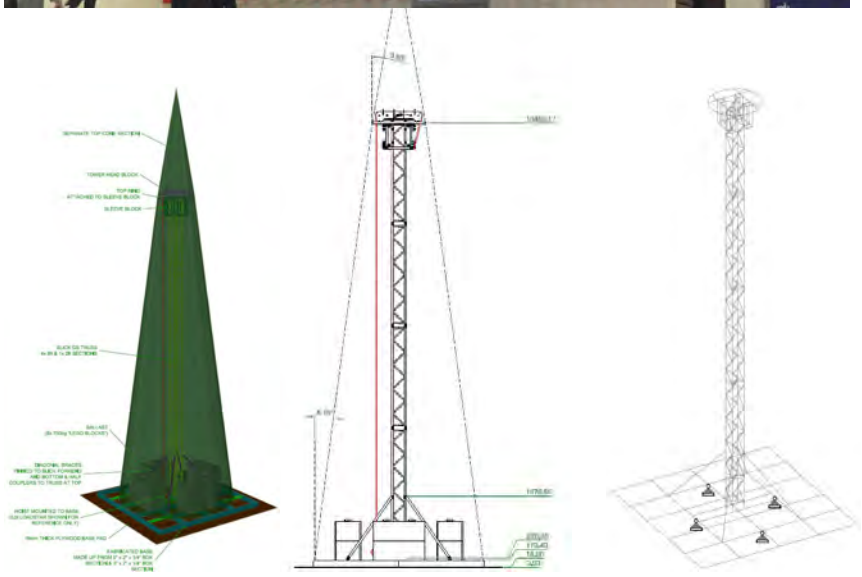
Scott White and Hookins' Role:

- Structural Engineering
- Event Engineering

Scott White and Hookins were appointed by Total Solutions to analyse and assess the overall load capacity for the primary structural elements of an aluminium framed 14.0m Christmas Tree and confirm its ballast requirements to prevent overturning or sliding.

The tree shape was formed by a fabric and is to be fixed to a fabricated base at ground level and also attached to the trussed mast structure at 10.45m above ground level to the top of the sleeve block.

The analysis comprised of modelling the structure 3 dimensionally to assess the capacity of the structural elements themselves against self-weight of the truss, self-weight of the tree fabric/presents (965kg in total) and wind.

Although the structure was designed for internal use in a train station (St. Pancras) it was checked laterally for a wind speed of 9 m/s to satisfy Network Rail requirements.

The base frame of the tree was designed to ensure the maximum bearing pressure on the supporting floor was no greater than 4.0 kN/sq.m.