Case Study: BAM Nuttall
UK's largest single pour of Cemfree for Network Rail at Chatham Station

PROJECT SCOPE

The scheme at Chatham Station involves the removal of the existing stepped only footbridge structure and replacement with new modern Disability Discrimination Act (DDA) compliant footbridge, stairs and lifts between platform and ticket hall.

During the design development stage, the project team realised the presence of a dis-used cellar situated beneath one of the platforms, measuring approximately 20 x 6 x 2.5m The foundations for the new AfA structure were also required to bear down upon the cellar location. It was therefore decided the best option was to in-fill the cellar.

CARBON SAVING

The BAM Nuttall delivery team, having been introduced to Cemfree about a year in advance of the project, worked collaboratively with Network Rail Engineering teams, alongside Robert West Consulting, Hanson Concrete and DB Group, to develop the design and methodology to enable the Cemfree material to be used.

The 300 m3 pour was both the largest single use of **Cemfree** to date, and the first time the product had been used on a Network Rail infrastructure project.

The use of this material generated 62t CO_2 savings, equating to an 83% saving compared to an OPC concrete.

KEY BENEFITS

- **Reduction in Scope 3 embodied carbon of 62t. This is equivalent to planting 308 trees, taking 35 cars of the road for whole year, or turning off 2,089 LED lightbulbs for a year.**

- **Journey towards Network rails carbon saving targets and the Governments long term goal of net zero carbon by 2050 along with BAM Nuttall's' own carbon emission reduction targets.**

OTHER SAVINGS IDENTIFIED

- **As Cemfree is a blended mix containing pozzolanic by-product materials, (GGBS and PFA), this also saves raw material depletion and is diverting waste from landfill.**

- **It also benefits from decreased water use as the Cemfree mix contains 40-60% less water than their OPC based equivalents.**