



**Spotlight on...**  
carbon reduction

**CONSIDERATE  
CONSTRUCTORS  
SCHEME**

# Case Study: BAM Nuttall

## Carbon Savings through Concrete Mix Design

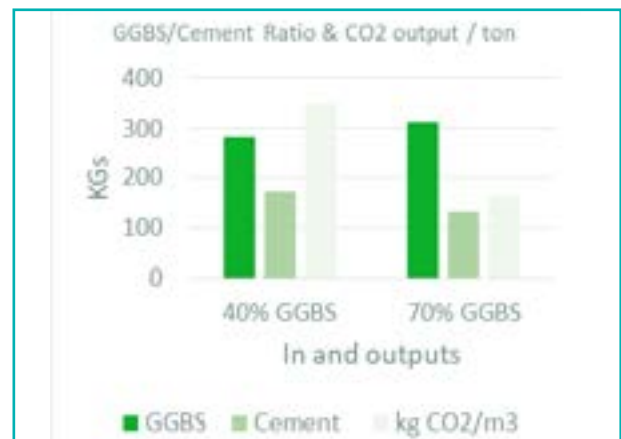
The purpose of the quantification was to assess the carbon savings that have occurred between the design stage and construction of the Flow Control Structure at Strensall, York on the Foss FSA project.

The quantification considers the concrete mix design. A 70% cement replacement mix was agreed with supplier and designer. Compiling of 312kg of GGBS and 133kg cement per cubic metre.

### CARBON REDUCTION VALUE

As seen in the graph opposite, the overall carbon dioxide produced per cubic metre of concrete is reduced by around 55% by increasing the level of cement replacement by 30%.

In total 347kg/m<sup>3</sup> is produced in mix CIIIA as opposed to 166kg/m<sup>3</sup> using CIIIB which was used to construct the flow control structure.



### MATERIALS SAVING

- **55% reduction - 153,000kg CO2e saved by using 70% cement replacement concrete instead of 40%.**
- **A reduction of 153 tons of CO2 is equivalent to a Ford Focus driving 11500 miles a year for 33 years.**
- **Reduction in materials (limestone), improved quality concrete finish.**

