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## M1 Junction 19 Catthorpe Viaduct Leicestershire, UK

**Client**  
Highways Agency

**Main Contractor**  
Skanska Construction UK  
Ltd

**Dates**  
June 2010 – March 2012

**Construction Value**  
£20m

**Form of Contract**  
(ECI) conditions based on  
NEC 2<sup>nd</sup> edition.



Catthorpe Viaduct Replacement is a safety maintenance scheme comprising of the design and construction of a new bridge to carry the southbound carriageway of the M6 motorway over the M1 motorway. The scheme also includes the demolition of the existing Catthorpe Viaduct.

The bridge, instructed by the Highways Agency under an ECI contract, replaces the current link between the M6 and M1 southbound, a cause for concern due to possible deteriorating hinge-joints in the deck. A catch-prop had previously been installed on the existing structure, reducing the M1 southbound down to two lanes and the hard shoulder.

The replacement structure consists of a two span steel composite bridge approximately 100m in length and 17m wide with a high skew varying from 61 degrees to 71 degrees. Six weathering steel girders and a reinforced concrete deck slab complete the bridge deck.

The Tensar Modular Block Wall System was selected to construct the southern reinforced earth wing walls. IBAA (Incinerator Bottom Ash Aggregate) was also used on the project. Used as a Class 1 material it achieved high CBR values. IBAA also reduced the number of delivery wagon movements involved to deliver the required quantities of material to site due to a reduced compacted density. Use of this material has led to both financial and environmental savings.

Constructing Catthorpe Viaduct Replacement entirely within the existing highway boundary, with around 67,500 vehicles passing the site each day, and in close proximity to the existing structure, the closest point being approximately 4m, brought challenges to the project. These included a resultant confined permanent works design and significant temporary works restrictions.

During construction, collaborative planning was a key tool with regular review sessions carried out on site with the client. Lean construction techniques have also been used with positive outcomes on activities such as piling.

Since construction began in June 2010, the site has remained RIDDOR free to the end of August 2011.