

ECOCRIB CASE STUDY

Kier, M6 J16-19, Knutsford to Crewe



PROJECT IN BRIEF

LOCATION: M6 J16-19, North and South

CLIENT: Highways England

MAIN CONTRACTOR: Kier

ECOCRIB SYSTEM: Mass Gravity

MAX. RETAINED HEIGHT: 1.5m

FACE AREA: 1478m²

PLASTIC WASTE DIVERTED FROM LANDFILL: 86 tonnes



PROJECT IN FULL

The Challenge

In 2015 Kier were awarded the £233 million project to build Cheshire's first smart motorway to help keep traffic flowing between J16 (Crewe) – J19 (Knutsford), this included 40 Miles of extra lanes, 21 overhead gantries, 18 emergency bays and 258 electronic signs. Hundreds of metres of retaining walls were needed to allow clearance for the emergency refuge areas (ERA's) and the overhead gantries to be built within the highways boundaries. "As infrastructures had a major impact on the M6 J16-19 critical path a cost effective solution was needed to reduce the overall time of installation." A durable, robust, economic and sustainable retaining wall solution with a British Board of Agreement (BBA) Highway Authorities Product Approval Scheme (HAPAS) certificate was required to satisfy the Highways Agency.

The Solution

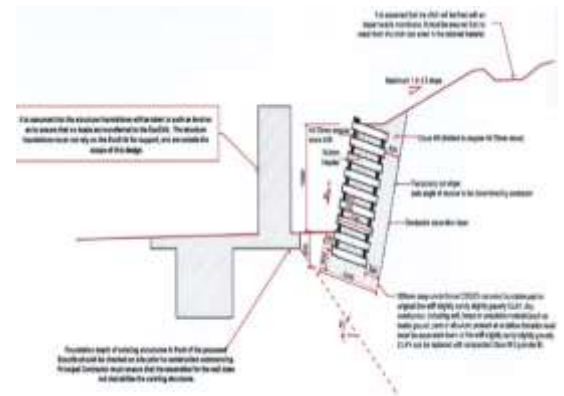
A number of EcoCrib mass gravity retaining walls now support the embankments along the M6 J16-J19 to provide clearance for many of the ERA's and Gantry Bases. Designed, supplied and installed by PC Construction. Awarded a BBA HAPAS certificate in 2012 with a design life in excess of 120 years, Ecocrib is structurally robust yet the most highly sustainable retaining solution currently available for highways applications. It was the only retaining option which didn't need heavy lifting equipment to complete the job which made it the safer option. It also allows the installation to be quicker and cheaper than the other options available.

Ian Potts quoted on be-half of highways England "The savings is easily calculated as the installation was priced by a pilling contractor at £41,975 and the installation cost of EcoCrib was £24,177 delivering a saving of £17,798 (£395.51/m). Total savings for M6 project is 270m (gantry bases) plus 390m ERA's @ total of 590m x £395.51p = £233,350 saving. However, other savings and benefits included: Installation time is 30% of alternative products i.e. 2 days against 7 days. Eliminates need for lifting equipment, allows working in limited spacing, environmentally friendly, improved aesthetics and a product life of 120 years. "

Developed from timber crib technology, the 50mm x 125mm Ecocrib profiles are considerably more durable than treated timber but possess many of the environmental benefits. Ecocrib profiles are manufactured entirely from recycled UK plastic waste with any wastage or surplus material re-processed to form new Ecocrib profiles. Ecocrib can be recycled when it reaches the end of its useful life.

1478 SQM of EcoCrib was used on the scheme equivalent to 17 million plastic bottle tops or 86 tonnes of plastic waste diverted from landfill.

Highways England are now looking at the possibility of using EcoCrib for step installations and retaining wall heights higher than 1.5m.



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