



LECA® LIGHTWEIGHT FILL SPECIFIED FOR M6 JUNCTION 10 IMPROVEMENTS



Over 8000m³ of Leca LWA was specified for the latest Highways England project on the M6 Junction 10 improvements in Walsall, designed and construction by Main Contractor John Sisk & Sons Ltd.

The new highway project involved the development of two new semi-integral bridges alongside an embankment with a 20 degree skew. There were technical problems discovered and limited space due to existing live carriageways, which required a robust lightweight reinforced earth backfill for the abutments to reduce the total settlements at the formation level and to reduce piled foundations extents and to minimise differential settlement.

From further investigation from the designers, Leca LWA was selected as a suitable solution for many engineering and logistical reasons. It was during the design phase, the main questions sought from the Clients Representative included the earthwork material classification for Leca LWA and whether the specification of Leca LWA would require a departure from the MCDHW Specification for Highway Works – Series 600 Specification. Through discussions with the technical representative at Leca UK, it was concluded that there would be a departure required and that the Leca LWA could be classified as Fill to Structures Class 6T, lightweight expanded clay aggregate (10-20mm).

Through multiple recent case studies in the UK, where Leca LWA was successfully installed on similar highway projects involving the development of integral bridge abutments, a departure was successfully submitted by Main Contractor's Designer Capita Pell Frischmann to specify Leca LWA for the M6 Junction 10 development. The key case studies highlighted included the A41 Stone Bridge, River Thane, Aylesbury; the A120 Stansted to Braintree development; the A4146 Fenny Stratford Southern Bypass over the River Ouzle, Buckinghamshire; the A27 Southerham to Beddingham Improvement and the A2/ A282 Dartford Improvement.

FACTS

Amount of material: 8000m³ of [LECA® LWA \(10-20mm\)](#)

Interesting Fact: There were technical problems discovered and limited space due to existing live carriageways, which required a robust lightweight reinforced earth backfill for the abutments to reduce the total settlements at the formation level and to reduce piled foundations extents and to minimise differential settlement.

Delivery Method: Walking Floor

Designer: Capita Pell Frischmann

Main Contractor: John Sisk & Sons Ltd