

Information Sheet 3D: Meldon Viaduct

Meldon Viaduct (SX 565923)

During the 1880s there was competition amongst railway companies to secure new prime routes as part of their expansion plans. In Devon, the Great Western Railway company with its famous engineer Isambard Brunel, had already secured the route from Exeter to Plymouth via Newton Abbot. This left the London and South Western Railway company with the alternative route to the north of Dartmoor.

In October 1874 the Meldon Viaduct was completed, under the direction of W. R. Galbraith, Consulting Engineer to the London and South Western Railway. It spanned the deep ravine of the West Okement River to carry a single track line from London Waterloo to Plymouth via Lydford and Bridestowe. The wrought iron and cast iron structure was made up of six equal span warren trusses on five lattice trestles which taper from base to apex, spanning a distance of 163m and standing a maximum of 46m above the valley floor.



Meldon viaduct c.1900 (Source: Museum of Dartmoor Life, Okehampton)

The original viaduct was built for a single track line with piers of wrought iron which were riveted together. In 1878 the line was doubled by building a second similar viaduct on the down side, the piers for this were constructed of mild steel and welded together. The two viaducts were then linked by extending the deck construction and bracing between the tops of the trestles.

The exposed position of the viaduct and the forces exerted upon it by trains travelling around the curve resulted in speed and weight restrictions being imposed. In 1938 braces were added between the lower end of the older trestles and in 1944, in order to allow heavy wartime traffic, the outer trestle legs were weighted with additional concrete to resist uplift. The viaduct was further strengthened between 1959 and 1960 with the inner trestle legs being weighted and the up line trestle bracing being replaced with stronger section members.



Meldon viaduct today, viewed from the south-west (Photo: Kevin Page 2005)

When rail services west of Okehampton ceased in 1968, the line was singled and for many years still used as a locomotive head shunt for the adjacent Meldon Quarry. The down line of the viaduct had a concrete road laid upon it in 1970 which was used for construction traffic whilst nearby Meldon reservoir was being built. However, in 1990 the rails across the viaduct were removed when the viaduct was deemed to be too weak to support the weight of a train.

Meldon Viaduct is one of only two examples of a wrought iron truss girder viaduct in the UK and its national importance is recognised by protection as a Scheduled Monument. In 1996 the viaduct was refurbished as part of the *Dartmoor Way* footpath and the *Devon Coast to Coast* cycle route. The panoramic views from the viaduct of Dartmoor and beyond are just as breathtaking today as they would have been for Victorian train passengers.



Detail of the structure of Meldon Viaduct from close to the eastern abutment (Photo: Kevin Page 2005)

Authors: J. Marchand & R.E. Page 2006