

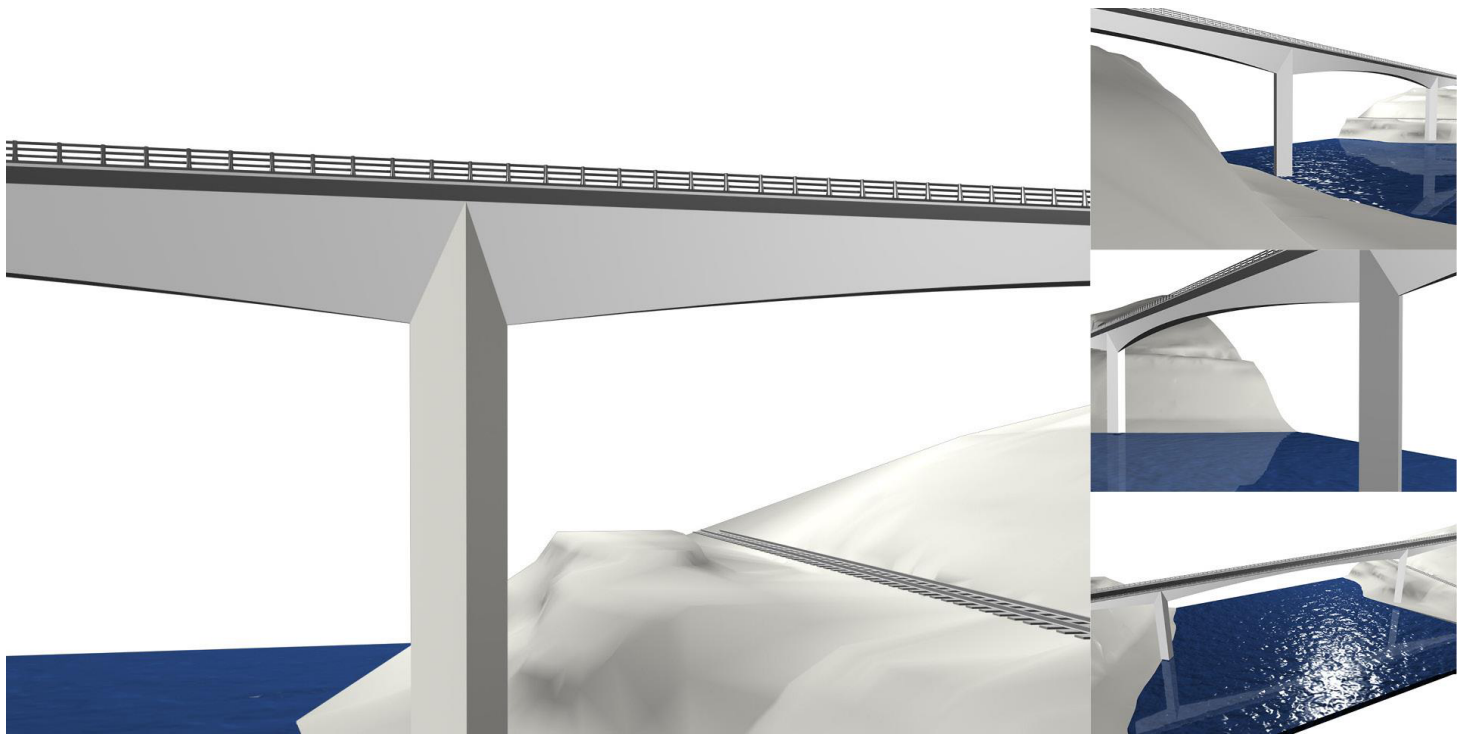


Bridge over river Miño

Cortegada, Ourense, Spain / 2004

Owner
Scope

Xunta de Galicia
detailed design



The new bridge over the River Miño between El Cortegada(Ourense) and Crecente (Pontevedra) forms part of a road Project which is set to improve the connection with the southern part of the region of Ribeiro with the A-52 which is really the main connection with southern Galicia. This project eliminates the winding roads on the hillsides which give access to this the current narrow-sectioned bridge, which spans the Freire reservoir and Ourense-Redondela railway line, situated on the left bank of the river on the Crecente side.

The structural solution projected is for a bridge to be constructed using the cantilever method. The deck is composed of three sections with spans of 65.0+130.0+65.0m and variable depth and is 6,985m long in the area of embedment with the piers and 2,827 m in the central span. The total width of the deck is 11.0m to accommodate the two 3.50m lanes, two 1.50m hard shoulders and the 0.50m parapet supports. The new bridge is 17.0m upriver from the current one.

The webs in the box section are at an angle of 23.50° to the vertical and therefore the core connection with the piers is triangular, likewise along the whole rise as it reaches the crown as well as a constant decrease in depth. The upper width of the box section, 5.50m, remains constant over the whole length of the deck, with two parallel 2.75m cantilevers which are 0.18m deep at the edge and 0.30m on joining with the deck.

The 3.89m² square-shaped pier shafts are 20.44m and 21.24m high. They have a constant height and are placed longitudinally along their diagonal (5.50m) and are set transversal to the deck. The piers are embedded in the deck section.

Each of the pier foundations have circular 16.50m diameter pile caps set upon twelve 1.80m diameter piles. The pile caps are flared being 1.80m at the perimeter and 3.60m at the base of the shaft.

Both abutments are closed with wing walls and have direct foundations. The Crecente abutment reaches a height of 10.30m whilst the Cortejaba abutment 12.02m.



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