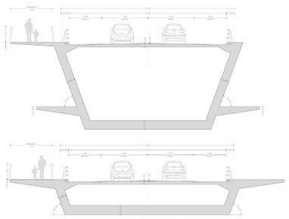
New bridge over River Tagus

Alcántara, Spain / 2017

Structural type	Hybrid bridge (beam-arch)
Owner	Consejeria de Economia Registro General
Client	Junta de Extremadura
Scope	tender design



The solution we have called Ala is a bridge with a 3-span prestressed concrete lintel, with variable section, in which only the central span is visible.

The proposed bridge presents a great formal austerity, which solves the crossing of the riverbed with great structural efficiency. The use of simple forms allows an easy integration in the environment dominated visually by the rotundity of the dam and the majestic presence of the Roman Bridge.

Main span is 264m-long, compensation spans are 70m-long.

The initial section in the intermediate support, which corresponds to the point where the bridge emerges from the slope, has a trapezoidal shape with a 12m-high section and lower wings that increase the capacity of the compressed section. These wings move through the walls of the section until they are located on the vertical in the center area of the span, where the minimal section height is 3m.

This structural game, in which the outer compressed wings follow the logic marked by the law of bending, also provides a special formal expression to the structure. Thus, the structure almost vanishes visually in the center of span as opposed to the massive starts that merge with the terrain.

At the span center, on the downstream side, the wing also is used to form part of the pedestrian walkway, and creates a special space above the traffic that functions as a large balcony from which you can see both the Roman Bridge as Alcantara dam, thanks to its elevated position respect with the road.

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