



# Dvorecký Bridge

Prague, Czech Republic / 2018

Client  
Scope

Ayuntamiento de Praga  
tender design



We are taken in by the site, the Vltava River and Prague. East and West of the city are joined by many bridges. Now a new bridge will stimulate the South part of Prague. The bridge will be a significant architectural landmark in the Valley of Vltava River. The new bridge should be elegant and functional, buildable and affordable.

The bridge spans over the river entirely, without piers. Spanning the whole width of the Vltava is in deference to the river and a way to not limit the use of the waterways in the future.

The site is quite asymmetrical: in the Smichov side the structure has also to span a wide area plenty of infrastructure services; in the Podolí side the bridge has to span a short bank area used as a leisure space.

The new bridge proposed is therefore an asymmetric structure, which combines a self-anchored suspension system with a frame structure. The use of an inclined strut under deck reduces significantly the suspended span. The strut also equilibrates the horizontal force transferred by the inclined and short pylon which has been traced leaning back to the West so that it integrates better visually in the landscape but maintaining its character as a landmark.

The bridge has a main span of 230 m over the Vltava, it is a continuous structure with approach spans in both banks. The deck has two steel box beams 3.00 m depth with a trapezoidal cross section. There is a system of transversal beams at 4.00 m each which support a concrete slab. The beams separate the trams and buses of the pedestrians and cyclist, and improve the vertical clearance under the deck.

In the Smichov side a tram stop fits with the geometry of the junction and the lateral span of the bridge. Inside the counterweight, stairs and a lift give vertical connection with the bus stops located under the bridges.

The construction of the bridge will not require temporary structures on the water. The construction starts with the foundations, approach spans and the pylon using temporary props. Before the erection of the cables, a temporary anchorage in the East bank will be setting. After the installation of the cables, the steel beams of the deck will be installed in segments from the water. Once the steel structure is finish the temporary anchor will be released transferring its force to the steel deck. After that the construction of the slabs of the deck will be carried out, completing the whole unique structure.

The bridge is a new type. The aim of the proposal is to provide Prague not only a bridge of elegant proportions and form, but also a symbol of innovation, plenty of structural logic, a state of the art example of new technological potentials in bridge construction.



C/ Barquillo 23, 2º | 28004 Madrid | España  
T. (+34) 917 014 460 | F. (+34) 915 327 864  
[www.fhecor.com](http://www.fhecor.com) | [fhecor@fhecor.es](mailto:fhecor@fhecor.es)