



Centenario Bridge repair and extensión

Seville, Spain / 2018-2024

Structural type
Characteristics
Owner
Client
Scope

Cable-stayed bridge, concrete pylons and deck. Widening and strengthening with steel structure
264.88m main span. Replacement of stays, increase of lanes number
MINISTERIO DE FOMENTO
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detailed design and construction monitoring



The Centenario Bridge in Seville shares a structural typology and cable technology with the Fernando Reigh Bridge in Alcoy. Both bridges of the State Highway Network employed the cable technique available at the time of their construction: prestressed strands embedded in cement grout confined in a black polyethylene outer sheath. The only difference between them being that a second outer sheath with a white finish was placed on the Centenary Bridge.

The deterioration of the cables in the Fernando Reigh Bridge led the Demarcation of State Roads to complete a replacement of its cable system. The experience gained by the technicians from FHECOR during the replacement of the bridge in Alcoy prompted them to propose a solution for the renovation of the cable of the Centenary Bridge, which meets the following principles:

- Secure replacement of the cables while maintaining the service of the bridge and minimal affect to traffic.
- Structural leverage of the current deck and piles, but with the complete replacement of the current cables, leaving only two plains of vertical cables. Expanding the service life of the bridge and its extension, while maintaining the aesthetics of the original bridge and optimizing the maintenance costs.
- Lateral enlarging of the piles to accommodate the new cables in the same vertical plane. This enlargement will be the minimum necessary, without adding height to the pile, and ensuring the aesthetics of the original bridge, which is a significant engineering work that serves as a symbol of the city of Seville.
- Compatible solution for the potential enlargement of the platform.

This solution has been developed as the Preliminary Project for the Demarcation of State Roads in Western Andalusia, drafted by FHECOR in collaboration with IDEAM under the supervision of MC2.



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