



Hernani Viaduct over the Urumea River. A cable stayed bridge for the high speed railway

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Summary

Hernani Viaduct is a 1226 long viaduct with two cable stayed spans of 120 m and 67.7 m. It will become the first cable stayed bridge for HSR (High Speed Railway) in Spain. Construction started in 2013 and will be finished by the end of 2015.

Hernani Viaduct is part of the access railway line to San Sebastian in the North of Spain. This 1226 m long viaduct runs parallel to the Urumea River, crossing it three times with increasing spans (39, 67.7 and 120 m) due to skew angle. Structure depth is limited by 500 year return period flood water level to 1.10 m below railway platform. This depth restriction forces us to adopt singular U shaped deck section and to add cable stayed superstructure for the 67.7 and 120 m spans. Construction is carried out using falsework. Temporary piers are placed every 30 m in the main spans and removed after cable stayed tensioning.

Keywords: High Speed Railway, cable stayed bridge, Urumea River, prestressed concrete.

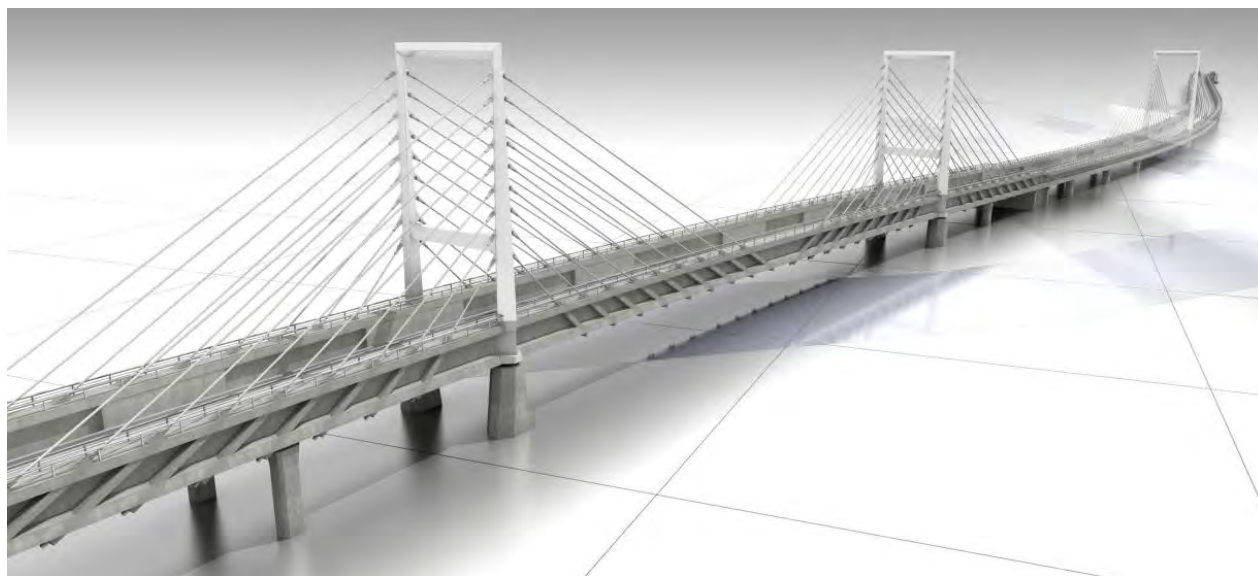


Fig. 1. Rendered view of the Hernani Viaduct for the High Speed Railway.

1. Project description

The Hernani Viaduct is part of the Hernani - Astigarraga stretch in the new high speed Railway Network in the Basque Country. It has a length of 1226 meters between support in the viaduct ends, according to the constructive project, written by Fulcrum and Arenas & Asociados for the owner ETS (Euskal Trenbide Sarea).