



La Florida Suspension Bridge

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Summary

Having to save an urban fracture in the city of Oviedo, Asturias (Spain), consisting in a vertical slope seven meters height sustained by a rock wall and the railway tracks and the road traffic, laying parallels to the base of the wall.

In the upper side of the wall, a new neighbourhood of the city, “La Florida”, can’t connect with the lower neighbourhood, “Parque del Oeste”, that provides a big park and municipal swimming pools.

Having waited Oviedo for a solution to this problem, “Arenas&Asociados, Bridge Designers” was committed by City Council to find that solution. A new-fangled structure was conceived; consisting on a suspended composite deck roundabout hanged from the inner edge by a system of hangers clamped to a pair of loop suspension cables. The structure is completed with a post-tensioned concrete approach viaduct and two waving footbridges connected by ribs to the suspended deck.

Keywords: suspension bridge, footbridge, concrete, composite bridges, post-tensioning, mast.

1. Introduction

The designed structure has as scope the connection, in the city of Oviedo, between La Florida neighbourhood and the Martínez Cachero street; allowing the 30.000 inhabitants of such a neighbourhood, a fast communication with the recreation area of the Western Park and the public swimming pools built there.



Fig 1. Joining La Florida and Western Park

Thus, the Council, was wishing for a suitable link for road and pedestrian traffic, willing to outpoint this last one due to the proximity between the La Florida neighbourhood and the Western Park, with the goal of minimizing the used of particular vehicles. This fact was a deceive seed in the search of the best solution to the existing problem.

It must be said that connection wasn't an easy issue, because La Florida is settled 8 meters above the Western Park. But the high difference isn't the only problem, but how such a difference is materialized.

The area where the project develops has got three streets and the railway tracks transverse to the new link. And those communication axes must be connected with the new longitudinal link between La Florida and the Western Park.