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## MANAGEMENT OF CONSTRAINTS TO CREATE MEANINGFUL PLACES: NEW FOOTBRIDGE OVER THE RIVER MOGENT IN MONTORNÈS DEL VALLÈS

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Do you need a landmark structure to create meaningful places? Most local communities cannot afford expensive signature projects to solve their lack of infrastructures. In the other hand, bridges and footbridges are highly visible objects that have an important impact on the places where they sit and the people with whom they interact, and therefore their design is always a great responsibility.

We are going to show how, with simple solutions and very limited resources, it was possible to find the right balance between the set of constraints and requirements we had to deal with —limited budget, tight deadlines, high flood level of the river flow, presence of three high-voltage overhead power lines, maintenance and durability issues in a rather conflictive neighbourhood,...—, and at the same time to deliver a well-integrated and aesthetically pleasant solution that provides a place where pedestrians may feel comfortable, welcomed and save, and even want to spend some time to rest, enjoy the surroundings,...



*Fig. 1. General view of the footbridge*



*Fig. 2. East abutment*

The main design decisions that allowed us to achieve these purposes were the choice of a Corten steel Warren truss deck, very efficient from the structural point of view and without the need to be protected against oxidation; the use of reinforced concrete for the structural elements in contact with the ground; the use of gabion retaining walls for the ramps, cheaper than concrete ones and unattractive to graffiti warriors; the use of synthetic wood timber, which does not require periodic care; and the choice of LED technology for the lighting, which provides the necessary levels of illumination with a highly reduced consumption of energy.

The Warren truss is a classic typology in the world of structures, which, in our digitized world, is sometimes perceived as an outdated form. Nevertheless, the validity of this classic element has been shown in this

scheme. As a result, we provided pedestrians and cyclists a special user experience with a highly effective and very low maintenance structure, which, along with a careful selection of the rest of materials, allowed us to achieve the sought goals with a highly cost-effective solution.



*Fig. 3 and 4. Inner views of the deck*

The area where the footbridge is located was a so far trivial place, but, in our opinion, with some potential for providing meaning to both, the people who crosses over the structure, and the people in whose world the footbridge is placed. We strongly think it is obvious that projects are conditioned by the places where they are located, but we also believe that footbridges may give an individual character —genius loci— to an otherwise rather plain location, creating this way meaningful places.

