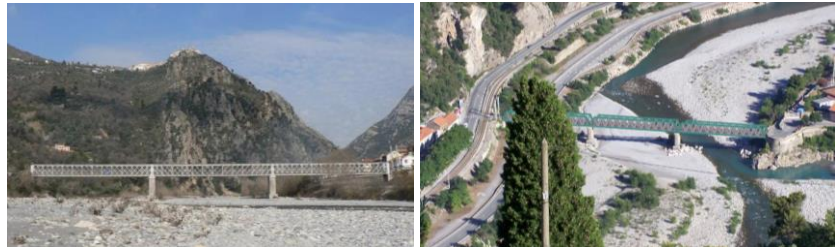


Preliminary studies on repair/ reinforcement and replacement

Gabre Bridge



Client:
EDF CIH

Project manager:
DIADES

Contractors:
Pending works

Years:
Planning: 2009

Principle features:
Metal lattice truss bridge
3 continuous spans of 48 m
Total length 146 m

Contexte

The Gabre bridge is a metal lattice truss bridge with 3 identical continuous 48-metre spans making up a total length of 146m.

This structure, which was originally designed to provide access to the hydroelectric plant in Plan du Var, is now the only way into village of Gabre, a community within the *commune*, or municipality, of Bonson (06), which is built around the plant.

The lead-based paint of this structure is widely corroded, there are non-negligible residual arrows, numerous distortions of several metal parts on each span, and a roller support on an abutment partially in the void.

The structure therefore needs to undergo major short-term specialist maintenance works; the main issue is that of allowing traffic to continue while the works are in progress.

DIADES' task

DIADES carried out preliminary studies into the repair, reinforcement and replacement of the Gabre bridge, which considered the following solutions:

- The repair and reinforcement of the existing structure, including restoring the anti-corrosion protection (presence of lead) and jacking,
- 3 solutions for a new deck on the existing supports (Warren, raised side beam bridge, Bowstring) to be implemented by sliding the new deck into place (*ripage*),
- 2 solutions for a new structure (mixed materials bridge and prestressed concrete box-girder bridge) downstream of the existing structure.

The studies into the solutions based on new structures took into account the demolition of the existing structure and all the issues inherent to the location, such as how to keep access to the site permanently open (phasing, temporary bridge, and so on).

Preliminary studies into the repair/
replacement of a sole access bridge

We looked into all the solutions for repairing and replacing the sole access to the village of Gabre by maintaining service during all the work phases, for all the solutions put forward.