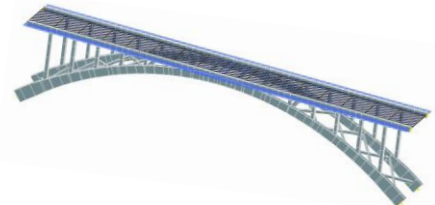


**Preliminary diagnosis of the Bridge du Bourg
on the river Creuse - departmental road RD 725**

Commune of la Roche Posay



Client:

Conseil Général de la Vienne

Project manager:

DIADES

Contractors:

Not applicable

Years:

October 2012 to March 2013

Principal features:

Reinforced concrete parabolic segmental arch bridge

Span 56 m – height of arch 9.40 m

Background

The Roche Posay bridge is a segmental arch made of reinforced concrete and built on the piers of a former suspension bridge between July 1936 and October 1937.

The arch spans 68.9 m and supports two traffic lanes and two footpaths. The structure presents pathologies which are characteristic of reinforced concrete bridges.

The *Conseil Général* (Departmental Council) of la Vienne wished to:

- Identify the origin of the defects and how far they had spread,
- Understand to what extent the defects are likely to develop in the absence of intervention,
- Estimate the effects of the defects on the durability and load-bearing capacity of the structure and on people's safety,
- Define conceivable solutions for repairing the structure.

DIADES' task

In order to determine the structure's load-bearing capacity, DIADES carried out the following planning stages:

- Carrying out an inspection and preliminary diagnosis and heading additional inspections (characterising materials, checking steel reinforcement plans, concrete analyses, and so on),
- Drafting an assumptions report based on the regulations in place when the structure was built and the information gathered from the analysis of the archive file,
- 3D modelling of the main reinforced concrete span using the PYTHAGORE software program in order to check the structure under the test loads prescribed in fascicule 61 title II and in accordance with the rules on *BAEL* (*béton armé à l'état limit*, or "reinforced concrete limit state") 91 amended in 99.



Preliminary diagnosis and determination of load-bearing capacity of a reinforced concrete arch bridge

Carrying out the diagnosis and running additional inspections, completely recalculating the main span and taking into account the entire history of the construction within a precise phasing.

Diadès

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