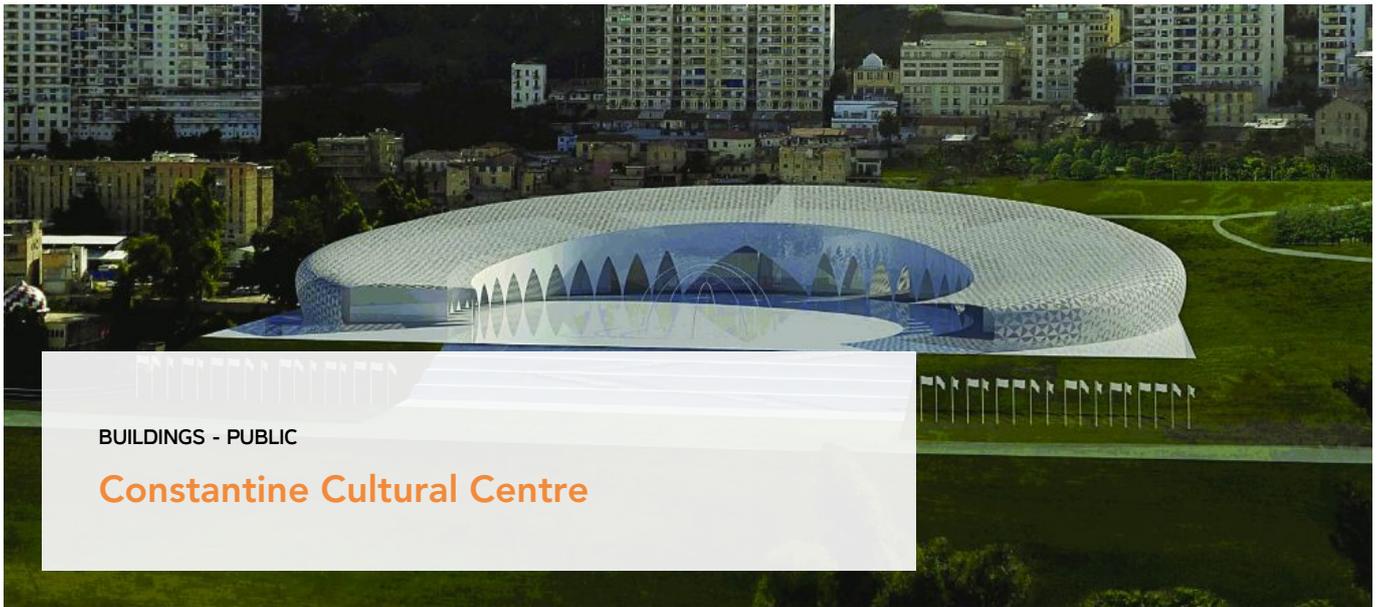




Engineering Structures for Life



BUILDINGS - PUBLIC

Constantine Cultural Centre

ABOUT

The Cultural Centre comprised the original program of the Arab Capital of Culture for 2015. This project included three different programs: a Cultural Palace to embrace different cultural events and venues, a Library and a Museum, covering a total area of 50.000 m³. These three distinct facilities, addressed in a single volume, were set towards an impressive plaza with an area of approximately 40.000 m². Two underground floors for car parking were foreseen in the project, with a capacity of almost 2.300 places.

GEG was responsible for the conceptual design of all engineering disciplines, with special emphasis on the geological and geotechnical studies, instrumentation and monitoring plan, slope stability analysis, design of earth retaining structures, structural and foundations design, plumbing, mechanical and electrical installations.

The implementation of this complex at the slopes of Bardo, in the northern part of the city of Constantine, was characterised by a considerable excavation to allow the construction of the buildings and their underground floors.

The geological and geotechnical complexity, the region's seismicity, the steepness of the slopes, the landslide potential and the short construction time granted, due to the 2015 event's tight deadline, were some of the factors that had to be considered in the design, affecting the conception of the solutions. Solutions and methodologies were widely studied and developed between architects and engineers in order to be consistent with the short period given for construction. The use of steel structures and precast elements are good examples, as well as the several studies regarding the best-fit layout of the buildings, leading to different configurations to minimise earthworks volumes,

FACTS

Year: 2013

Client: Andrade Gutierrez

Services: Conceptual design, Structural Engineering, Foundations design, Mechanical, Electrical and Plumbing design, Telecommunications & Security, Geological and geotechnical characterization, Geological and geotechnical studies, Ground support and earth retaining structures, Slope stabilisation

TEAM

António Campos e Matos
Sérgio Cunha

Raquel Campos e Matos

LOCATION

Constantine, Algeria

earth retaining wall and shoring needs, foundations and to facilitate the construction schedule.