



## STRUCTURES FOR THE OPENING CEREMONY OF THE OLYMPIC GAMES CONCRETE CHAMBER IN THE OLYMPIC STADIUM FIELD

“KANON CONSULTING” was responsible for the design of the majority of a series of structures whose construction inside the Olympic Stadium was deemed absolutely necessary for the successful, physical realization of the opening ceremony of the Athens 2004 Olympic games. Our firm began by designing a reinforced concrete chamber 25.0m deep and 25.0m wide in diameter in the center of the stadium. A high-speed elevator capable of lifting 40 tons of equipment was then installed inside the chamber, along with steel service decks.

An underground water tank in the shape of a donut and a pumping station were also constructed in the perimeter of the chamber under the stadium field. As required by the Olympic ceremony production team the capacity of the tank measured at 2.500m<sup>3</sup>, and the pumping station was constructed so as to be able to flood the entire stadium field within minutes.

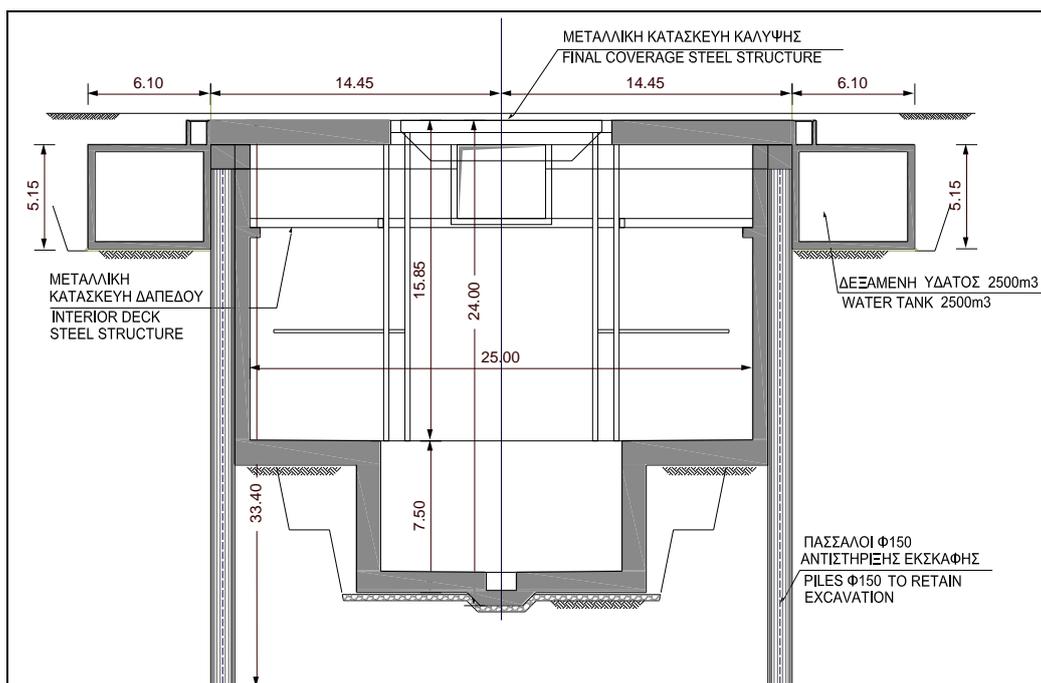
For the excavation of the chamber a circular pile wall was created with 52 piles 1.20 diameter, 32.0m long. Excavation was gradual, followed by the top-down construction of the chamber exterior reinforced concrete shell, which measured at 70cm thick. Due to high water table in the area, drainage of the excavation pit and pumping was continuous. Pile deformations were monitored in the event that significant deformation due to hydrostatic pressure would develop.

All retaining piles were unanchored and were only connected at the top with a pile cap ring beam.

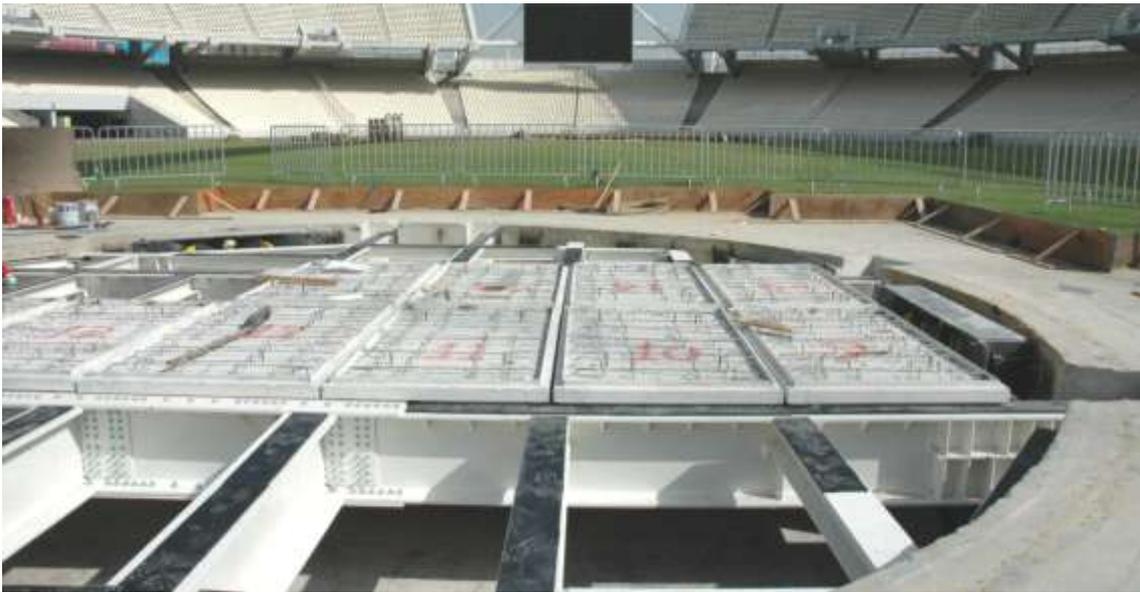


*Characteristic scene of the Athens 2004 opening ceremony*

In addition, our firm designed many steel structures for the lighting equipment, TV-coverage and sound installations that were required to meet the heavy demands of both the opening and closing ceremonies. Finally, our firm was responsible for designing the foundation of the cauldron housing the Olympic flame.



*Typical section of the concrete chamber in the Olympic Stadium field*



*Concrete chamber for the opening ceremony of the Olympic games in the center of the stadium field. There can be discerned the elevator guides and the steel structure for the coverage of the chamber's roof*