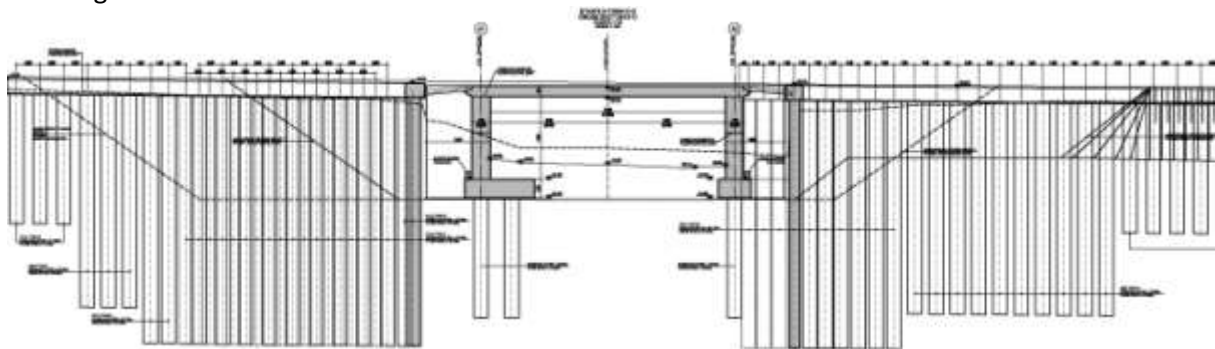


**OLYMPIA ODOS CONCESSION COMPANY S.A. - ELEFSINA-KORINTHOS-
PATRA-PYRGOS-TSAKONA MOTORWAY**
SECTION: GEOGRAPHICAL UNITS GU18-21 & 28N

CONSTRUCTION: HOCHTIEF CONSTRUCTION AG – AKTOR S.A. (2009 -)
DESIGN: KANON CONSULTING (2009-2011, 2013 -)

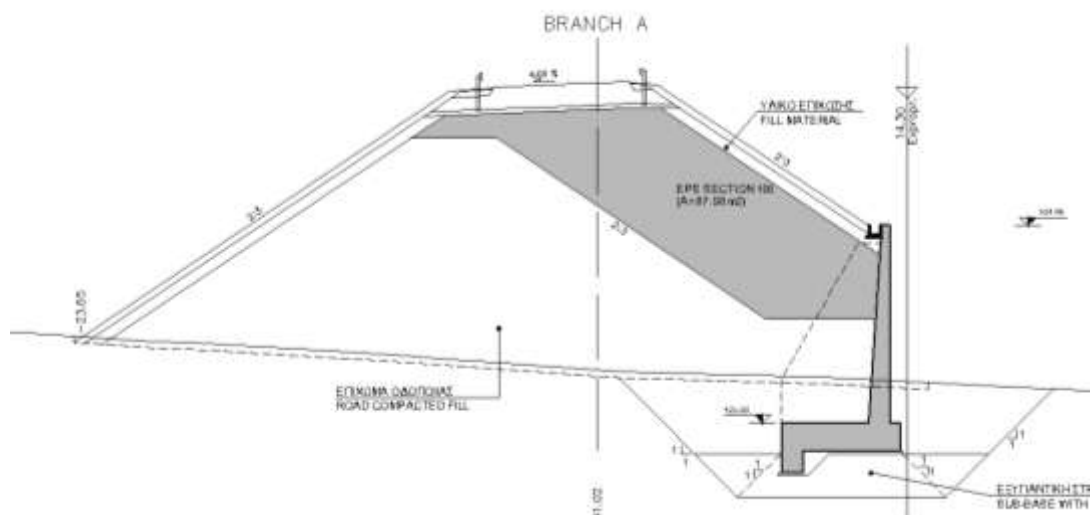
The scope of work included the final design and construction drawings for a substantial number of highway structures comprising mostly underpasses, retaining walls and overpasses. The key aspect of all structures was the fact that their proximity to the existing motorway, which ought to remain operable at all times, imposed the construction in stages leading in an extensive use of retaining structures.

The underpasses met in the project are either box-type, founded on piles or constructed by the top-down method depending on the local conditions and the available expropriation land. The underpasses are in most cases perpendicular to the motorway axis, however some of them are skewed with angles reaching 35°.



Cross-section of Underpass K279

All types of retaining walls have been designed in this project; conventional cantilever retaining walls, contiguous piling walls with a single row of piles or staggered piles, walls founded on piles with counterforts and anchored walls. The height of the walls varies reaching a maximum of 16.70m. An innovative solution implementing EPS (expanded polystyrene system), which significantly reduces the lateral pressures resulting in smaller structural sections and allowing shallow surface foundation, was developed for such wall heights.



Section of Retaining Structure with the implementation of EPS