

Madrid-Barcelona HST (Spain)

HST Girona Station

Hydromill Diaphragm Wall and Pile Retaining Wall



Project:	Madrid-Barcelona-Frontera Francesa. Girona Station
Scope:	Hydromill diaphragm walls for station and TBM reception shaft
Property:	ADIF
Client:	UTE AVE GIRONA (Dragados, Fcc, Copisa, Tecsa)
Year:	2008-2010

Description:

Terratest has executed the foundation of the future AVE Station in Girona, acting as main contractor directly for the UTE AVE GIRONA. The foundation works started on November 2008 and finish April 2010, including the execution of the perimeter diaphragm wall of the station, the foundation bearing elements, and a provisional pile retaining wall inside the station.

Due to the ground characteristics and the technical requirements of the project, the perimeter wall and the bearing elements were drilled by hydromill system. Diaphragm wall was projected with 1.200 mm of thickness and bearing elements as square section of 2,80 x 1,20 m dimensions. Maximum excavation depth reach 53 m, and as result of that final executed quantities were more than 80.000 m² of diaphragm wall. To fulfill with the multiple deadlines required in the project, the scope of the works was executed with 4 Hydromill units Bauer type, working simultaneously: 2 units BC 40 with Liebherr LB-885 crane, 1 hydromill BC-40 with Bauer MC-64 crane and compact equipment CBC-32.

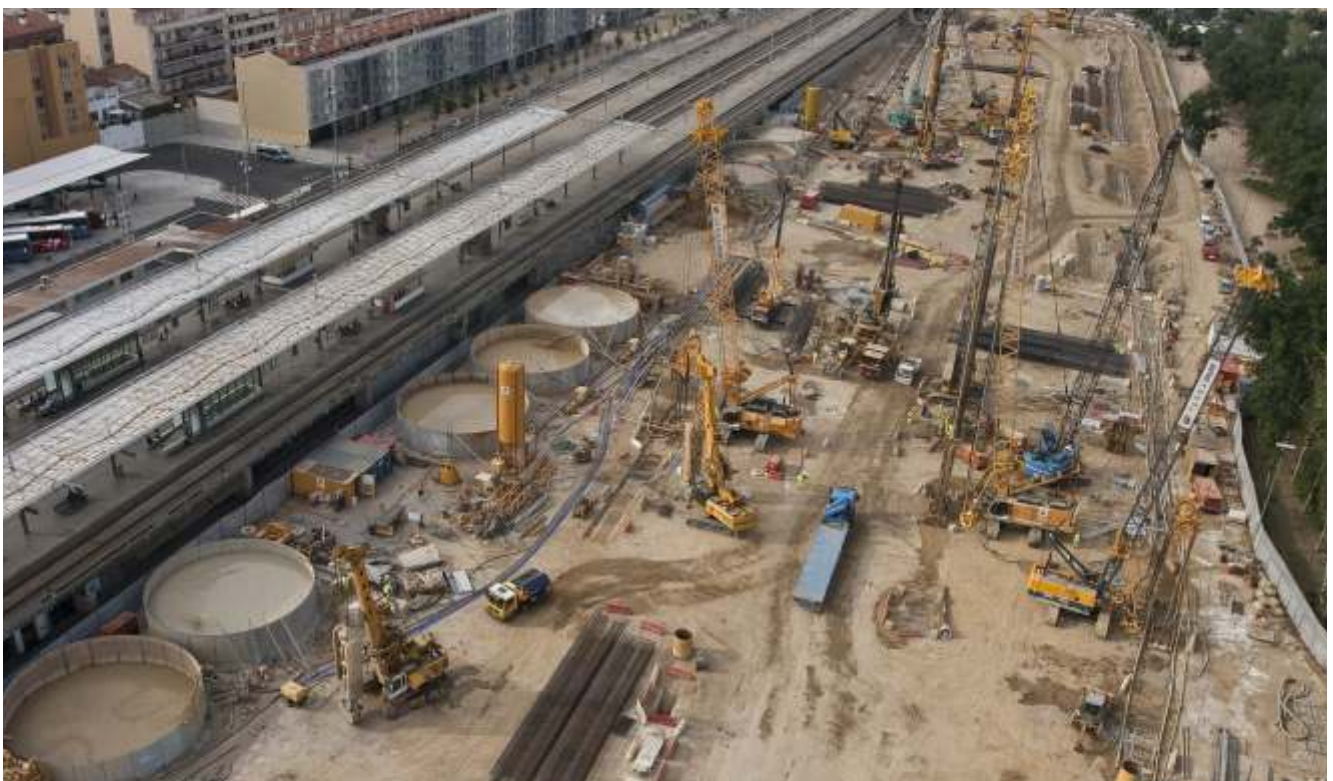
With the objective to let the circulation of the TBM through

the station before being finish the foundation phase, provisional pile retaining wall was executed inside the station. The piles were designed of 1.20 m of diameter and maximum depth of 38 m, with a final quantity of 20.000 lm. For the execution of this unit, the equipment used was composed by 4 Bauer type Drill Rigs (1 BG-36, 2 BG-2 and 1 BG-22).

The foundation for the new AVE Station in Girona, has been a new challenge for Terratest due to the technical requirements and the size of the project. It's the first site in Spain that 4 Hydromill equipments arte working simultaneously, with the associated auxiliary cranes, other equipments and drill rigs machinery for the provisional pile retaining wall.

Summary of site characteristics

- 1.200 mm diaphragm walls
- 1.200 mm pile section
- 53 m maximum depth
- 80.000 m² of executed walls
- 20.000 m of piles and piles



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