

# Deep shaft

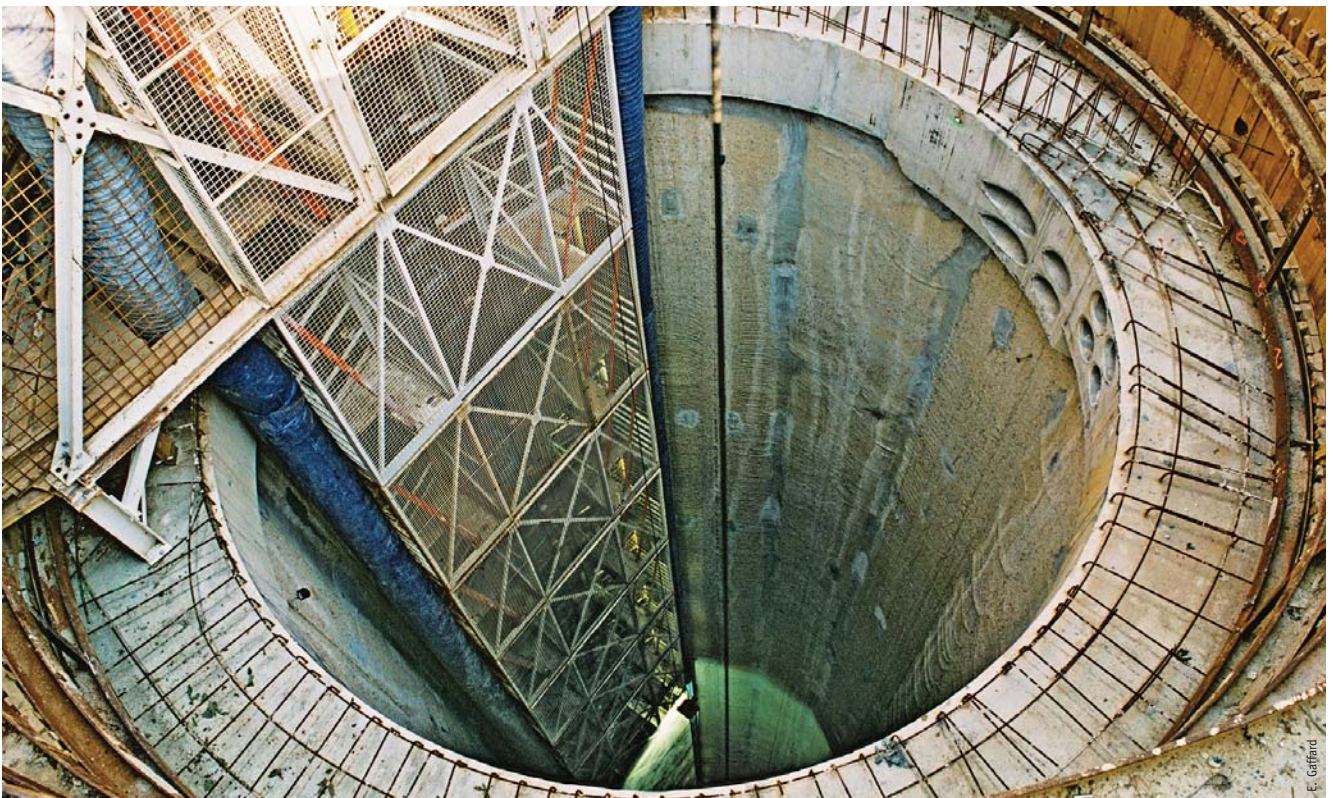
Circular diaphragm wall

## A86 - CARROUSEL SHAFT

VILLE D'AVRAY - FRANCE



### Circular diaphragm wall for a deep shaft



As part of the Socatop project, Solétanche Bachy constructed the Carrousel shaft in 2006. The structure acts as a ventilation and emergency access shaft for the A86 which was constructed as a bored tunnel at a depth of up to 80m between Jouy-en-Josas and Rueil-Malmaison. A special feature of this 7.80 m internal diameter shaft was its construction using diaphragm walls down to depths of 65 m. It is at this depth that the wall

CLIENT:	COFIROUTE
SUPERVISING ENGINEER:	SOCATOP
FOUNDATIONS CONTRACTOR:	SOLÉTANCHE BACHY
WORKS PERIOD:	NOVEMBER 2005 - JANUARY 2006

#### MAIN QUANTITIES:

- 1.02m thick diaphragm wall: 1,800m<sup>2</sup>
- Concrete: 1,850m<sup>3</sup>
- Diaphragm Wall depth: 65m
- Tolerance of 0,3% on verticality



E. Gaffard



D. Runacher

Hydrofraise Evolution

< 65 m of shaft seen from the bottom of the shaft. The rib and timber supports can be seen at the foot of the D. Wall



D. Runacher

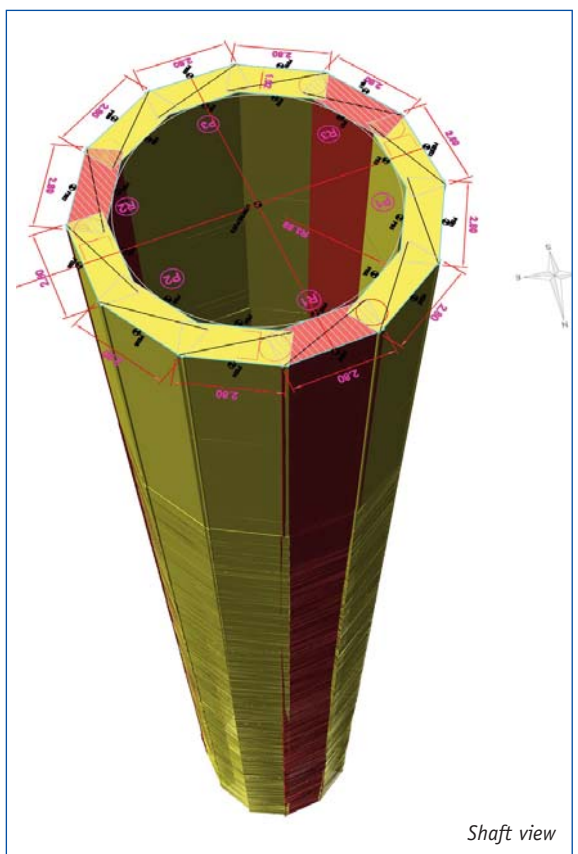
Hydrofraise driver's cab, equipped with the Enpafraise system

is anchored into water-tight strata. The excavation works was then carried thereafter out using traditional shaft sinking methods with rib supports and timbers down to a depth of 85 m. The D. Wall was then completely exposed and underpinned. The Enpafraise system, developed by Solétanche Bachy, which allows the operator to view the precise position of the excavation tool in real time, allowed total control over vertical alignment constraints (tolerance set at 0.3%). Good vertical alignment guarantees the effectiveness of the arch effect, water tightness and the finished geometry needed for the shaft function as designed.



Concreting the panels

D. Runacher



Shaft view