

Construction

GENERAL CONTRACTOR ALL BUILDING TRADES

Car Park

Retaining structure - Earthworks
Civil engineering - Building trades

MARCHÉ NEUF CAR PARK

SAINT GERMAIN EN LAYE - YVELINES - FRANCE



Acting as the main contractor for the construction of a five storey 410 space underground car park



This project will allow the transfer of the place du Marché Neuf surface parking facility to a 5 basement level underground car park with space for 410 vehicles.

The width of this 70m long structure varies from 30 to 42m. It comprises two 15m wide bays providing a central traffic lane with angled parking spaces off either side.

The 2 bays are separated by a single row of round columns for user safety and convenience.

CONCESSIONAIRE AND CLIENT:	QPARK FRANCE (Saint Germain stationnement S.A.S.)
SUPERVISING ENGINEER: AUTHORISED AGENT:	THIERRY BEAULIEU PARTNERSHIP
ENGINEERING AND DESIGN OFFICE:	BEAULIEU INGÉNIERIE & AC INGÉNIERIE
MAIN CONTRACTOR:	SOLETANCHE BACHY FRANCE
EXTERNAL CHECKER AND SAFETY COORDINATOR:	APAVE
DURATION (inclusive of surface installations):	APRIL 2005 TO SPRING 2007

MAIN QUANTITIES:

- Retaining structure: 3,350m²
- Nails: 850 off
- Earthworks: 39,000m³
- Roof slab and floors: 10,700m²
- Technical and secondary building trades



Earthworks and construction of the concrete sprayed wall with stabilising nails

Construction

Retaining structure - earthworks

The upper levels were constructed inside a retaining wall installed before the earthworks were commenced. This 7m deep wall consists of metal stanchions anchored into bored piles. During the earthworks, the stanchions are supported by 7m long nails while the ground between the stanchions is supported using timber lagging.

The lower levels were constructed inside a nailed shotcrete wall constructed progressively as excavation work advanced

Internal structure

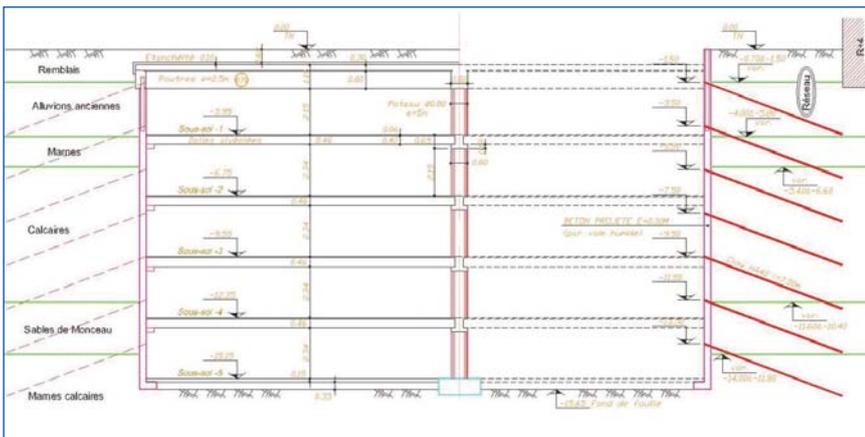
The internal structure was built from the bottom up:

- the foundations were laid followed by construction of the central row of columns,
- the beams and the floors were then constructed.

The 15m prefabricated honeycomb slab floors rest on a bearing structure anchored into the walls and tied into the row of columns.

Traditional formwork was used for the up and down rotunda.

The upper slab is constructed using 15t prefabricated beams and prestressed floor support slabs.



Typical section



View of the floor of the excavation on the Arcades side



Beam installation to construct the cover slab