



# Berlin

## Pergamon museum excavation- ARGE BG PMU II

Data and facts

---

Company

---

Type Underpinning, Rehabilitation

---

Runtime 08.2014 - 02.2018

---

Principal Federal Office for Building and Regional Planning

---

[Project report online](#)

[www.porr-group.com](http://www.porr-group.com)

**PORR**

# Construction in the existing structures at the Berlin museum island (museuminsel)

As part of the Berlin museum island master plan, the Baugrube PMUII joint venture received the contract for execution of complex, specialised deep works in and underneath the Pergamon museum in July 2014. The Pergamon museum will be connected to the Bode Museum, Neues Museum and Alte Museum by an archaeological promenade. The museum will continue to operate throughout the whole construction period.

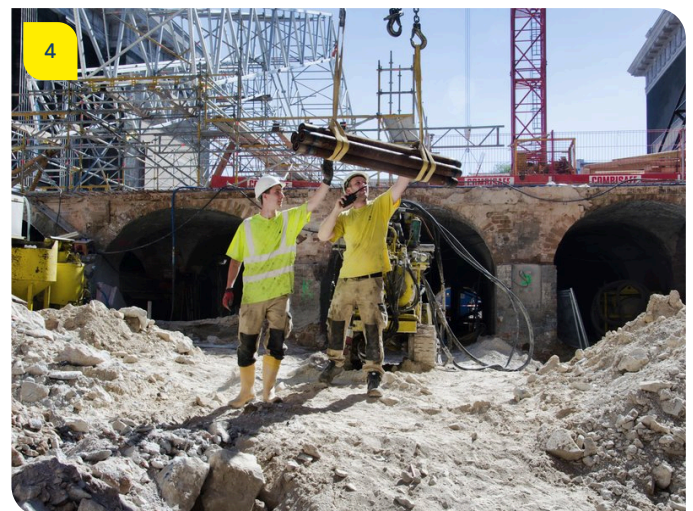
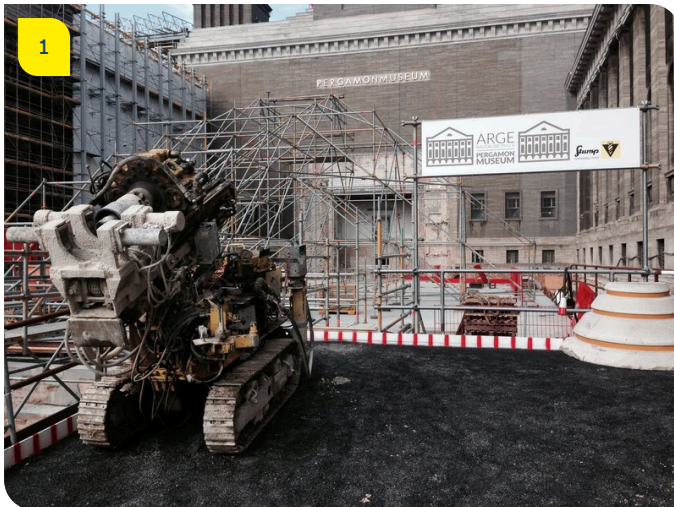
21 waterproof troughs are created and numerous underpinning works are performed using the jet grouting procedure during renovation of the existing foundation. The following was also required: complex exploration works of the existing structures, extensive low pressure injections with fine cement of around 970 micro piles up to 30 cm deep, water drainage work and demolition, excavation and steel construction works. All services are provided within the area of the specially protected building stock (UNESCO world heritage site). This sets clear limits in terms of drive technology and size, for the selection of devices. Permanent monitoring of the existing Pergamon museum is ensured by a comprehensive monitoring system throughout the whole museum. The construction site operation is characterised by a very restricted space with the corresponding logistical challenges, such as the simultaneous execution of the renovation, preservation and new construction work, and the construction operation and operation of the museum which is open to visitors running side by side.

Construction with existing stock is a particular challenge since the available planning documents for the existing structures do not always correspond to the real situation. This makes creating the waterproof excavations more difficult, and requires continuously adapted dynamic planning. In a subsection in which the new “Tempietto” entrance is located, deep obstacles were discovered which needed to be overcome for creation of a watertight floor, and this was very complex. The obstacles encountered have been overcome by using a drilling rig at a depth of 9.2 m. Since the services for the Tempietto were only originally possible with two tower cranes due to the surrounding development, a 40 m long steel temporary bridge was created for the construction of the drilling rig. The rig weighed 65 tonnes.

The last subsection of the special underground construction was transferred to the shell construction project after completion in January 2018. In accordance with a press release from BBR (the Federal Office for Building and Regional Planning, 11/2016), the completion of the first, central construction section is planned for 2023. This was originally planned for 2021.



# Impressions



## Image notes

1

Pergamon Museum construction pits - ARGE BG PMU II

The globally unique ensemble of Berlin's Museum Island with its five temple-like buildings harbours treasures from 6,000 years of human history.

2

Pergamon Museum construction pits - ARGE BG PMU II

Drilling the micropile foundation for the new building in the 4th wing. Drilling depths of up to 25 metres using the double-head method.

3

Pergamon Museum construction pits - ARGE BG PMU II

The foundations of the vault supports had to be partially reinforced by means of fine cement injection.

4

Pergamon Museum construction pits - ARGE BG PMU II

Construction site operations are characterised by very tight spaces with corresponding logistical challenges.

Do you have questions about the project or would you like to learn more? Feel free to contact us for further information.

**PORR AG Group Communications**

Absberggasse 47

1100 Wien

T +43 50 626-0

E-Mail: [comms@porr-group.com](mailto:comms@porr-group.com)