

New B25 bypass

07.01.2021 / Österreich / Bernhard Strasser

Civil engineering/ Infrastructure



Factbox

Client: Land Niederösterreich

Contractor: ARGE B25 UF Wieselburg
bestehend aus G. Hinteregger & Söhne
(PORR), Granit, Swietelsky

Project Type: Civil
Engineering/Infrastructure . Road and
bridge construction

Scope: Building the 8km B25 Wieselburg
bypass, including 14 of the 17 bridges and
940,000m³ of embankment

Contract Volume: EUR 51m net

Construction Start: 09/2017

Construction End: 06/2021
(Gesamtverkehrsfreigabe)

PORR subsidiary Hinteregger is working on a joint project to divert the B25. The new bypass will reduce through traffic and improve quality of life in the town.

In the Scheibbs district in Lower Austria, the B25 main road runs straight through the centre of Wieselburg. A new 8-kilometre bypass is expected to reduce traffic by up to 50%. The tricky elements in the contract are largely due to the interaction between bridge construction and earthworks. The consortium is building 14 of the 17 bridges on the new stretch of road, remediating a contaminated site and implementing some 940,000m³ of embankment.

Shoulder-to-shoulder to completion



The complexity of the contract meant perfect interaction between earthworks and bridge construction was essential, with every department working shoulder to shoulder. Source: PORR

Every day, 2,000 lorries and 14,000 cars rumble through central Wieselburg. The new B25 bypass will promote economic development in Wieselburg, improve quality of life for local residents and increase traffic safety.

Back in 2017, Hinteregger headed the consortium that won the contract to build the bypass. Since 2018, Hinteregger has been a PORR subsidiary – and this project certainly requires the various departments to exemplify our ‘shoulder-to-shoulder’ principle. Perfect interaction between the earthworks and bridge construction teams is essential to mastering the complexity of the task, which includes building 14 of the 17 bridges on the route. PORR’s Civil Engineering department in the Lower Austria office has taken on a major role in the asphalt works; concreting company Österreichische Betondecken Ausbau GmbH, or ÖBA, is responsible for stabilising and the in-situ concrete barriers; and PORR Umwelttechnik GmbH is handling remediation and clearance of a contaminated landfill on the route.

The bypass will have an asphalt carriageway along its full length. The superstructure comprises a 20cm frost protection layer topped with a 30cm thick cement-stabilised base course and three layers (15cm) of asphalt. The construction period has been extended somewhat as a result of temporary restrictions due to the coronavirus crisis. The first section, from the junction with the L96 as far as the southern roundabout, is expected to open to traffic in December 2020.

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This is a particularly complex project due to the combination of earthworks and bridge construction, as well as the obstacles along the route. We are building 14 bridges on the route, remediating a contaminated site and building 940,000m³ of embankment.

Bernhard Strasser

Earthworks and bridge construction

The consortium has already completed the challenging earthworks for the project. Material availability and specialised quality requirements certainly tested the team to the utmost. The material was delivered to the construction site by lorry from six different production sites. Around 800,000m³ of external material was brought in for the 940,000m³ of embankment; the rest was reclaimed from the construction site and improved with lime stabilisation.

The team is building 14 of the 17 bridges on the bypass route. Two of these cross the River Erlauf, and the northern Erlauf Bridge also spans the millrace and an intermediate island, with a total length of 200m. These two bridges were originally planned to have reinforced concrete composite superstructures. However, in the course of a value engineering process, the client decided to adopt the consortium's proposal and implement the superstructures with reinforced concrete slabs using in-situ concrete. The team therefore built both structures as semi-integral bridges.



The consortium is building 14 of the 17 new bridges on the new route. As well as a number of smaller structures, these include the north and south bridges over the River Erlauf. Source: PORR

Landfill and sewage treatment plants

Another technical challenge along the route was presented by the bottleneck point between the town's sewage treatment plant and Wieselburg Brewery. The first step was to relocate the vertical clarifier, as it was in the way of the new route. The 110kV power line was also lifted along this stretch, to allow for the high embankment. Since the bottleneck left no room for embankment slopes in this section, the PORR team built a precast element retaining wall from precast

elements, secured with fleece tiebacks. A grid of unusually deep bored piles was used for the retaining wall foundation, as the adjacent sewage treatment plant was vulnerable to settlement. Another obstacle to be surmounted on the route was an old landfill site located at the L6141 crossing. The team cleared the site professionally with the help of PORR Umwelttechnik GmbH.

Noise protection and water conservation



Numerous measures are being implemented in the Wieselburg bypass project to protect both people and planet. Source: PORR

Numerous protective measures for both people and planet are being implemented in the Wieselburg bypass project. The team is required to document 555 environmental impact checks during the project. Noise protection measures are being installed along almost the entire length of the bypass. In total, there will be 38,000m² of noise protection wall up to 4m high.

Since the new bypass runs through a water conservation area, protecting the groundwater takes top priority. In addition to sealing the foundation layer, the

consortium has also built six settling and soil filter basins and a retention basin, making a total of 5,300m³ of basins. Twenty wells have also been drilled to help with ongoing groundwater monitoring and measurement. Four groundwater measurement stations collect data round the clock and send it to a central system, which analyses the groundwater flows in detail and saves the data. Other measures include reforestation, green bridges and wildlife passages, amphibian protection walls and passages, and bat nesting boxes.

Technische Daten

Road length	8 km
Bridges	17
Contaminated site remediation	83,000 m³
Embankment	940,000 m³
Spoil	540,000 m³
Asphalt surface	160,000 m²
Asphalt volume	62,000 tonnes
Soil improvement	250,000 m²
Bored piles	2,900 running metres DN120
Steel incorporated	2,700 tonnes
Concrete incorporated	26,000 m³
Noise protection wall	38,000 m²

Gallery

