KRONENRAIN CAR PARK AND TOWER
Neuenburg (Germany)

NEW BUILDING

Client: Town of Neuenburg, represented by mayor Joachim Schuster

Certified Inspection Engineer: Prof. Dipl.-Ing. Matthias Pfeifer

Our services: Structural engineering inspection in accordance with regulations and standards:
Static calculations
Execution planning
Random monitoring of the structure during the building phase

Brief description: Construction of a new multi-storey car park with 230 parking spaces, a public city balcony and an observation tower connected by a bridge, as an attraction to visitors of the State Garden Show 2022

Multi-storey car park with city balcony
- 3-storey steel composite structure, traffic lanes and ramps using in-situ concrete, filigree slabs concreted on top
- 5,300 m² gross floor area, column grid 5 m x 15 m
- L-shaped ground plan, two structures divided by a connecting joint
- inhomogeneous soil conditions, foundation on 103 drilled piles
- drilled piles extend to the load-bearing gravel of the Rhine, in some cases 20 m deep into the ground.
- floor slab resting on plate beams with a thickness of 0.25 m
- built on a hillside with an overall difference in height of 10 m
- shoring of hillside and building using foundation anchors, due to high load from the slope and pressure of the earth
- bracing via reinforced concrete walls and slabs
- city balcony, public use of the flat roof above the uppermost parking level, paved and planted
- urtain wall of perforated tamped concrete, approx. 9 m high, fixed using stainless steel parts
- bracing as a system of columns and traffic lane slabs

Observation tower
- 36 m high reinforced concrete tower, rectangular base plan 7.20 x 7.90 m
- foundations resting on 8 concrete piles and a 1.60 m thick reinforced concrete pile head slab
- bracing via floor slabs and building core
- iewing platform at a height of 35 m (top of railings)
- curtain wall with perforated tamped concrete facade, as with the multi-storey car park

Connecting bridge
- connects the city balcony with the observation tower, approx. 10 m above ground level
- load-bearing structure of weatherproof structural steel constructed as a single-span projection, total length 50 m; hollow steel box girder with trough cross-section of 3.50 m, faced with safety glazing
- bridge flexibly mounted on elastomeric supports

Architects: MONO Architekten Greubel & Schilp & Schmidt PartGmbB, Berlin

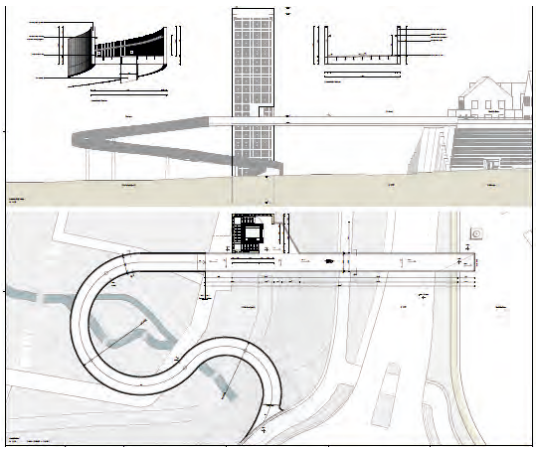
Structural Engineers: WTM Engineers GmbH, Berlin
wh-p Ingenieure GmbH , Stuttgart

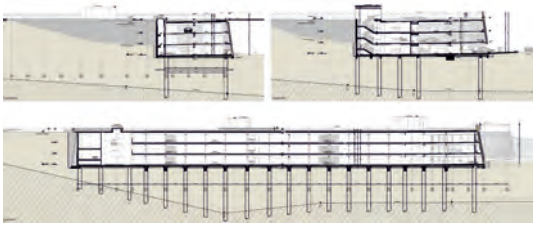
Completion: 2022


Visualisation car park, ©MONO Architekten


Visualisation city balcony, ©MONO Architekten


Visualisierung observation tower and city balcony, ©MONO Architekten


View of observation tower and connecting bridge, ©MONO Architekten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