TUNNEL KÜCHEN
KASSEL (DE)

EMPLOYER
Tunnel Küchen, A44 VKE 32, DE-34117 Kassel

DESIGNER
Ingenieurgemeinschaft BUNG - müller + hereth, DE

CONSTRUCTION PERIOD
2012 - 2015

CONTRACT SUM
CHF 89 Mio. (€ 74 Mio.)

EXECUTION OF THE WORK
ARGE Tunnel Küchen

JOINT VENTURE PARTNERS
Marti Tunnel AG, CH-3302 Moosseedorf
Marti GmbH Deutschland, DE-70567 Stuttgart
Johann Bunte Bauunternehmung GmbH & Co.KG, DE-26871 Papenburg

LEAD COMPANY AND TECHNICAL LEAD
Marti Tunnel AG, CH-3302 Moosseedorf

COMMERCIAL LEAD
Johann Bunte Bauunternehmung GmbH & Co.KG, DE-26871 Papenburg
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PROJECT DESCRIPTION
New highway BAB 44 Kassel - Herleshausen, VKE32 Tunnel Küchen.
The contract comprises a 4.3 km long stretch consisting of the twin-tube Küchen tunnel (south tube: 1'333 m / north tube: 1'372 m), earth works and road construction Küchen. Due to the tunnel length, 5 cross connections and 2 emergency breakdown bays are planned.

WORK DESCRIPTION
The tunnel is to be built up as a double lined vault construction: with a shotcrete- and a cast in place concrete inner lining. The site installations are located near a residential area. The cross section is of 100 m² and 135 m² in the emergency niches. The excavation is performed with the D&B method and crosses under the Küchen location with a minimum overburden of 5.5 m. The construction works started in December 2012, including amongst other, the excavation of the pre-cut of the Küchen tunnel.

- Open construction pit east 2 x 20 m
- Shotcreted portal east 42 m and 72 m
- Rock tunnel 1 x 1’259 m
  1 x 1’198 m
- Shotcreted portal west 32 m and 23 m
- Open construction pit west 2 x 20 m
- Excavation volumes 260’000 m³
  Concrete-/shotcrete volume ca. 140’000 m³
- Reinforcement steel ca. 14’600 t
- Construction method sprayed concrete lining excavation method(top heading, bench and invert excavation)
- Minimum overburden 5.5 m
- Maximum overburden 47 m

GEOLOGY
The Tunnel Küchen lies along its entire length in sedimentary red sandstone formations. The tunnel has an overburden in a range of 5.50 to 47 meters. Due to the proximity of the groundwater level, the entire structure is protected by a waterproofing membrane.