

Two-track Underground Expansion of Central Railway Project - Hubelmatt Tunnel

Client

Department of Transport and Infrastructure (vif), Lucerne

Consultant

IUB Engineering AG (as part of Total Contractor)

Construction period

2009–2012

Construction costs

Approx. CHF 23 million

Services provided

- Assistance with Total Contractor bid based on construction project
- Implementation
- Construction management and supervision
- Commissioning/Completion

Description

The central railway is undergoing a two-track underground expansion from Lucerne Station to the stop at Kriens Matenhof. This subproject also includes the 550m long mined Hubelmatt Tunnel. After deepening the excavations at the two portals in January 2009 work began to drive a test tunnel from the Allmen side with a TBM. At the same time a pipe roof was built on the Geissensteinring side to pass under Stermatt Road. From the end of 2009 until autumn 2010 the calotte was excavated using a roadheader. The core of the stopes was then removed with a rock miner and the road header was used to break through the stope sidewalls and floor. At the end of October 2011 the rearward works such as sealing in the portal area, niches, casing shotcrete and shoulders could be completed. Work was completed in 2012.

Main technical data

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|----------------------------|------------|
| - Mined Hubelmatt Tunnel | ca. 550 m |
| - TBM test tunnel | D = 3.9 m |
| - Calotte excavation width | W = 11.5 m |
| - Height of excavation | H = 9.4 m |
| - Weight of roadheader | ca. 65t |
| - Rock cover | 10–15 m |

