

## K36 Lammschlucht Gorge, Rehabilitation and Maintenance

### Client

Lucerne Canton Construction Directorate  
 Office for Transport and Infrastructure,  
 Road Inspectorate (KSI) / Construction  
 Department

### Consultant

IUB Engineering AG

### Construction period

2009–2010

### Construction costs

CHF 2.5 million

### Service provided

- Pre-project, construction project,  
tendering, implementation
- Statics
- Site supervision

### Description

In the Lammschlucht Gorge rock fall, block fall and landslides are common and engineering structures are in need of repair. Before the start of the 2<sup>nd</sup> phase construction works in 2010 there was a shallow spontaneous landslide on the edge of the road on the valley side, which was rebuilt with a back anchored supporting wall (length=35m). As part of the concept for interim measures the unstable pieces of rock, artificial rock slopes, geological foundations of the engineering structures and several block stone walls were secured with back anchor shotcrete or concrete. The areas exposed to rock fall were equipped with a safety net. The sandstone arched bridge at the end of the gorge was retrofitted using steel clasps and back anchor foundations. In the Unter Tännkli area the edge of the road on the valley side was secured with a bored pile wall and a head beam (length=50m). The sealing, the supports, the natural stone walls and the concrete of the engineering structures were repaired.

### Main technical data

- |                         |                    |
|-------------------------|--------------------|
| – Shotcrete             | 150 m <sup>3</sup> |
| – Concrete              | 210 m <sup>3</sup> |
| – Swiss-Gewi-Anchor     | 1,400 m            |
| – Rock fall safety net  | 70 m               |
| – Bored piles d=0.9-1.0 | 220 m              |

