



Case Study

# Fast-installed underpass solution keeps vehicle traffic moving at active gold mine

ViaCon delivered an underpass structure for the TSF Haul Road Southern Road project in Turkey, enabling vehicle traffic in an active gold mine while meeting demanding time and load requirements.

## The Challenge

At the TSF Haul Road Southern Road (5-way tunnel) project, the customer, Anagold Mining, needed a tunnel solution to accommodate vehicle traffic within an active gold mine.

The project had to be carried out in a demanding operating environment where ongoing mining activity placed strict requirements on timing, coordination and execution. Tight deadlines were

a key challenge, as the solution needed to be delivered and installed quickly without disrupting operations more than necessary.

The structure also had to meet demanding technical requirements, including high live loads, controlled backfilling conditions, seismic considerations and long-term durability under mining site conditions.

Learn more at [viacongroup.com](https://viacongroup.com)

**VIACON**

## The Solution

ViaCon proposed a ViaPlate 380 structure as an underpass solution designed to accommodate vehicular traffic both over and under the structure.

The tunnel was delivered with a span of 12 m, a height of 5.65 m and a length of 51.19 m. The design also included bevels of 1:1.61, a 70° skew angle and a plate thickness of 5.5 + 5.5 mm.

To meet the project's structural requirements, the SC-10NA structure was strengthened with additional ribs made from 5.5 mm plates in areas exposed to higher loads, spaced at 1524 mm c/c. The structure was designed in accordance with the contractor's requirements, including:

**Live load:** 85 kN/m<sup>2</sup>

**Cover depth:** 1.85 m under the road

**Backfilling:** aggregate compacted to 98% standard Proctor density

**Seismic effect:** horizontal acceleration ratio Ah = 0.4,

**Durability requirement:** 40 years

**Corrosion protection:** zinc coating conforming to EN ISO 1461

Because the project was located within an active mining site and subject to strict time constraints, workforce and operational capacity were increased and additional shifts were introduced to maintain the required pace.

## The ViaCon advantage

The finished installation gives the quarry a durable and efficient reclaim tunnel solution adapted to demanding operating conditions and high loads from the stockpiles above. It supports automated material discharge while also enabling practical access for maintenance and cleaning.

For the client, the project demonstrated the benefits of ViaCon CSS solutions in this type of application: a lighter structure, faster installation, economic advantages compared with heavily reinforced concrete, lower environmental impact, and improved operational safety.

## Technical specification

**Project:** TSF Haul Road Southern Road (5-way tunnel)

**Customer:** Anagold Mining

**Application:** Tunnel/underpass construction for vehicle traffic in a gold mine project

**Profile:** ViaPlate 380

**Span:** 12 m

**Height:** 5.65 m

**Length:** 51.19 m

**Slope/bevels:** 1:1.61

**Angle:** Skew angle 70°

**Plate thickness:** 5.5 + 5.5 mm

**Live load:** 85 kN/m<sup>2</sup>

**Cover depth:** 1.85 m

**Backfill requirement:** Aggregate compacted to 98% standard Proctor density

**Seismic design parameter:** Ah = 0.4

**Durability:** 40 years

**Corrosion protection:** Zinc coating according to EN ISO 1461

**Reinforcement:** Additional 5.5 mm ribs at 1524 mm c/c in higher-load areas

## Read more at

[www.viaconacademy.com](http://www.viaconacademy.com)



## Contact us

[info@viacongroup.com](mailto:info@viacongroup.com)

**VIACON**

[www.viacongroup.com](http://www.viacongroup.com)

Björklundabacken 3, 436 57 Hovås, Sweden