



## Extension of Tribhuvan Airport in Kathmandu

Creation of tarmacs and taxiways

2018 - 2019



NEPAL

Client

ADPi

Terrasol fees

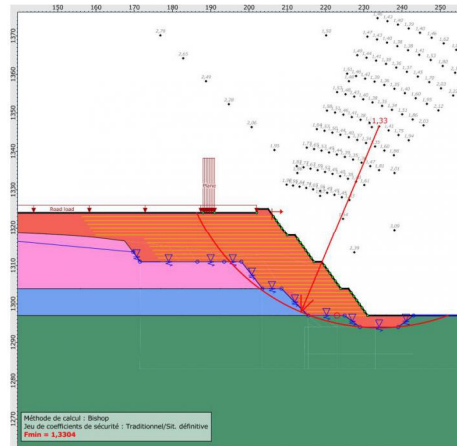
49 500 €

Lead Designer

ADPi

Highlights

Very high embankments  
(up to 28 m high)



### The Project

Kathmandu, the capital and gateway to Nepal, is a destination renowned for its cultural and natural heritage. The city's airport is therefore a major element of the country's development. Its modernization and capacity reinforcement were entrusted to ADPi's Project Manager.

The infrastructure is set on a hill, and the tarmacs and taxiways project faces a double challenge: considerable altitude variations and limited expansion possibilities (the city surrounds the airport).

### Our Services

ADPi entrusted TERRASOL with the design of the retaining structures, which present many geotechnical issues: a very high embankment (up to 28 m); strong seismic hazard (earthquake of magnitude 7.9 on April 25, 2015); site located in the valley bottom on liquefiable soils; and a platform sensitive to displacements.

For the structures design, TERRASOL used the results of a soil survey campaign including SPTs, core drilling, and laboratory testing. The geotechnical synthesis makes it possible to define, for each site, the geotechnical models and the liquefaction potential according to the NCEER method (with our new software SLAKE).

The design of the reinforced embankments was carried out with Talren, and the platform settlements were evaluated with Tasseldo module (Foxta software). Finally, settlements due to creep in the long term (taking into account the reinforcement elements) were estimated using a PLAXIS 2D model.

### Key features

- Geotechnical synthesis and evaluation of the liquefaction potential
- Design of the retaining structures under strong seismic conditions
- Design of the reinforced embankments with calculation of the platform settlements