



VAL RABBIA ROCK SLIDE

Italy, 1988

PROJECT CHARACTERISTICS

Works: Major rock slide, more than 500 m long, and extending for about 800 m in elevation affecting the valley slope of a mountain river in the Alps.

Purpose: Understanding the causes of the movements, its actual extent and evolution. Providing an immediate minimum monitoring, planning a full-fledged investigation campaign and outlining stabilisation works. Designing a by-pass tunnel for the river to avoid accidental impoundments and dam break effects.

Dimensions:

- *volume of the slide:* 30 000 000 m³
- *height of the unstable slope:* 800 m
- *movement:* 1 – 2 m

Materials:

- rock and slope debris plus soil cover and vegetated mantle



PROFESSIONAL SERVICES PERFORMED

Topographic mapping of the entire area and neighbouring valley sections. CAD 3 D terrain model and block diagram, programme of investigations and investigations supervision, monitoring plan, supervision of the installation of the monitoring equipment and analyses of acquired data. Design of an investigation/drainage tunnel and of other stabilisation measures. Preliminary design of a by pass tunnel and associated power plant.



Incipient movements of a major rockslide were detected on the North slope of Rabbia Valley, in the Italian Alps.

The fall of the slide would have dammed a major stream possibly causing temporary impoundment and the danger of a dam break flood.

The slide is located on a medium size river and immediately upstream of a village.

Any flood resulting from the breaching of a temporary dam would destroy a national road and a railway line downstream and isolate an entire valley from the rest of the country.