

FEATURE OF TECHNICAL SERVICE

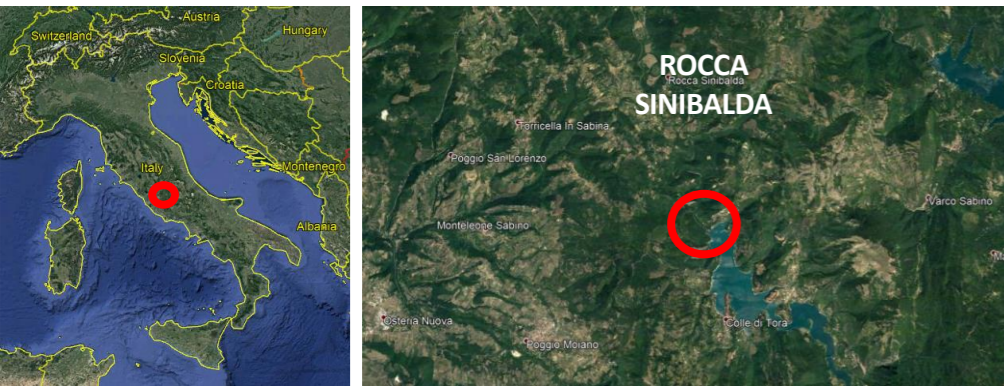
Subject Executive design of **rocky slope stabilization interventions** facing access road to the building half bottom discharge of **Turano Dam**.

Carried out by SGAI Srl di E. Forlani & C.

Client ERG HYDRO SRL

Service length 2021

Value of works € 250.000,00 (S.04)



METHODOLOGICAL APPROACH

Risk analysis for rockfall and rocky slopes stability above access road and maneuvering cabin located on the right bank downstream of **Turano Dam**.

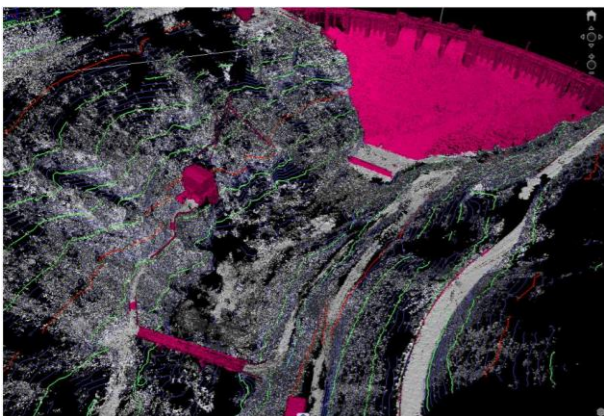
I Phase - Fact-finding part: collection of available data integrated with **surveys, on-site and laboratory investigations**, to create an exhaustive context for subsequent activities of risk evaluation and intervention design (**geological, geomorphological, hydrogeological, hydrological and seismic framework** and geomechanical survey of interest area).

II Phase - processing and interpretation data: from the survey is possible to reach the point cloud up to the **reference ground model**, from the geomechanical surveys the **characterization of rock mass** in terms of subsequent use for homogeneous areas (parametrization of the rock mass in interest area, geometric analysis and **kinematics** on rock walls, stability checks of rock slopes, rockfall trajectories analysis with fall simulations).

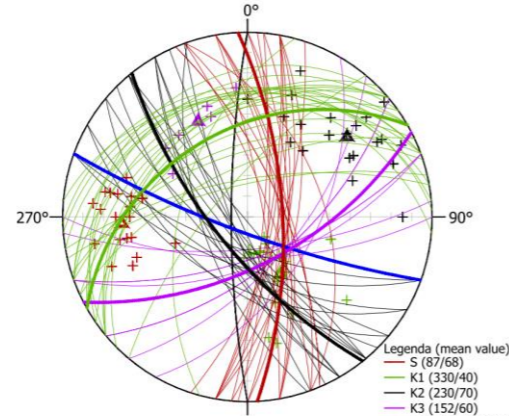
III Phase - risk estimation and mitigation course: **stability checks, rockfall trajectories analysis** as basic data for the estimate. The risk is interpreted as a combination of the probability of adverse event occurrence (danger), with the damage that it can cause.

The designed consolidation system consists of: **passive steel anchors**, a row of **nails** to be fixed to the foot to provide support for the fragile rock material resting on the ductile material, a **grid of steel ropes; double twisted wire mesh**. The intervention will be carried out after having **preliminarily scoured** the entire slope by **removing the unstable blocks and the vegetation** with root system developed in the cracking of the rock mass. The **safety operations** will therefore be: **exploration and rock removal activities**, then the removal of the pinnacle and finally the **consolidation of the rock walls**. Periodic **monitoring** of the consolidation works is arranged to verify the **efficiency of the work itself over time**.

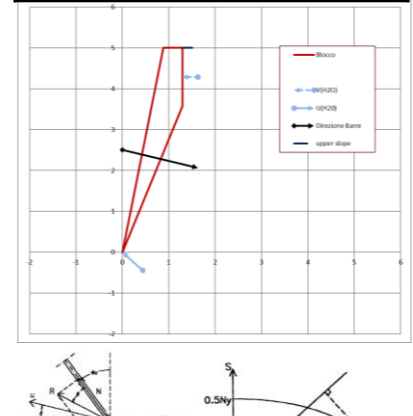
PHASE I.



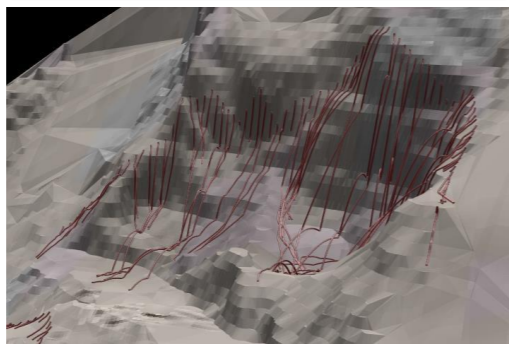
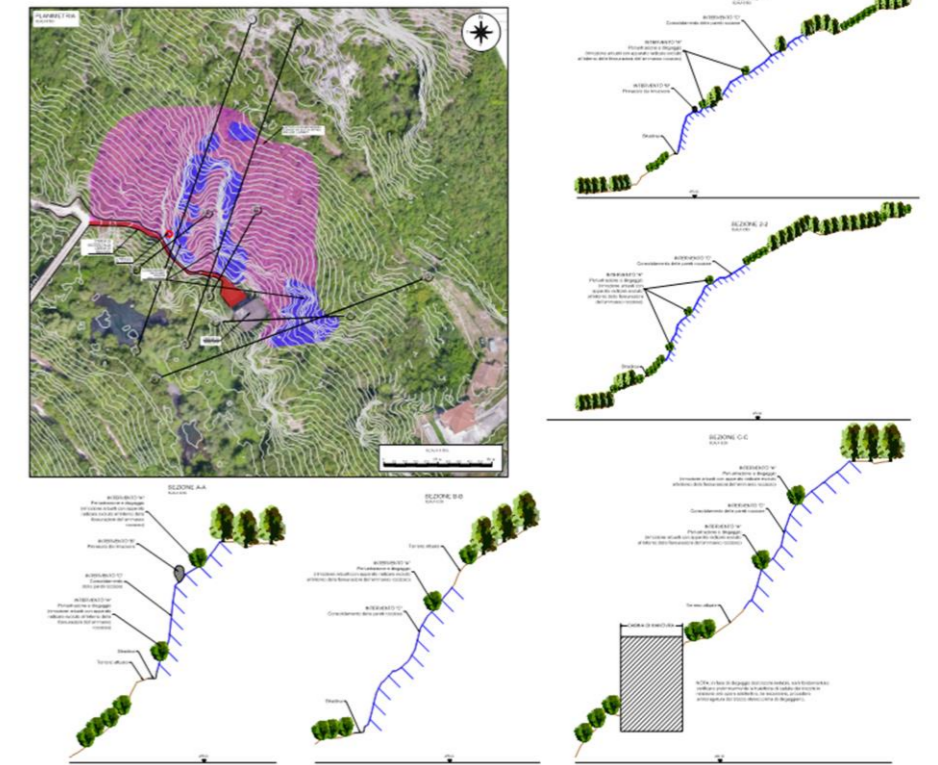
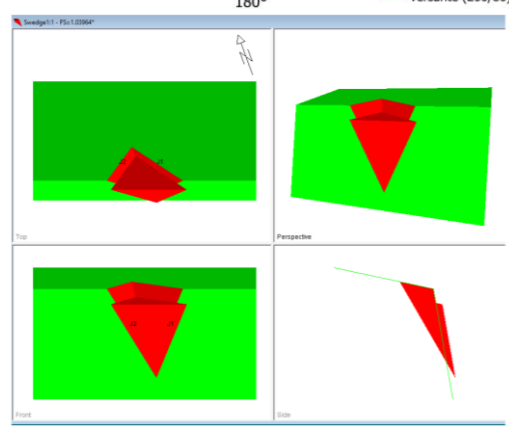
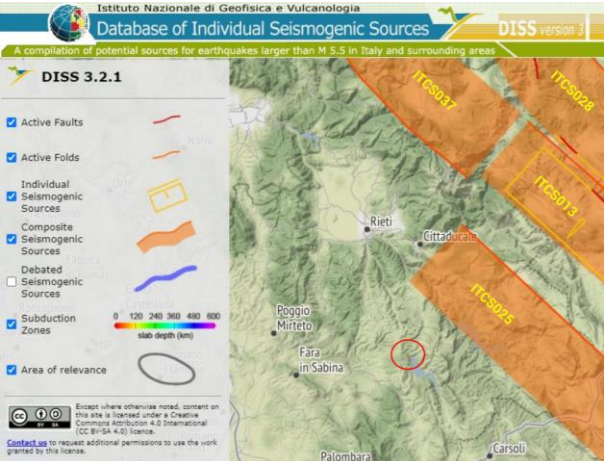
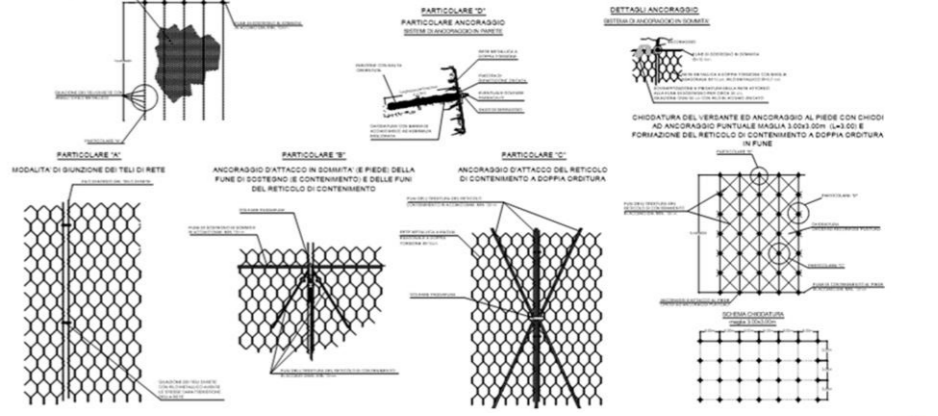
PHASE II.



PHASE III.



Construction details



Interventions plan and construction phases

Desing section