2003 – 2007

Project
ITALY
CONSTRUCTION OF THE OVERFLOW SERVING BISAGNO RIVER
(LIGURIA REGION)

Client
PROVINCE OF GENOA

Description
The Administrative Province of Genoa entrusted SGI with the planning of important structural interventions and upgrading on the Bisagno River, in order to preserve the safety of urban areas near the city of Genoa, which were often flooded. In certain periods of the year (i.e. during severe rain events) the water level of Bisagno River was reaching such height that the riverbed was unable to contain it and hence the water was overflowing to the surrounding area. Given the position of the river from the geographical and urban/spatial standpoints, the flood events caused by the water overflow were producing seriously harmful impact both to the environment and to the residential areas nearby. The designed interventions took into account the urban context and the presence of an alluvial aquifer with strategic importance for water supply of the entire city, as well as the preservation of natural habitat of marine environment at the overflow outlet.

The schedule of the works encompassed the following activities:

- Catchments works on Bisagno River;
- Design of flood tunnel;
- Design of 3 wells for sub-catchments diversion;
- Design of 7 wells for the aeration;
- 3 catchments works along the tunnel;
- Works for water discharging in the sea;
- Ancillary works aimed at maintenance of the overflow channel.

The services provided included:

- Topographical, morphological, hydrological and hydraulic studies, including delineation of risk zone and outline of flood protection measures;
- Survey works concerning topographical maps, geological and hydro-geological characterization;
- Detailed design;
- Environmental Impact Assessment by means of:
  - Hydro-geologic study of the area crossed by the tunnel (Flysch-Pliocene terrain) and of alluvial sediments taking into account the well fields of water supply system;
  - Mathematical groundwater model;
  - Modelling of diffusion and settling of river’s sediments from the floodway to the sea;
  - Experiments with physical models.