

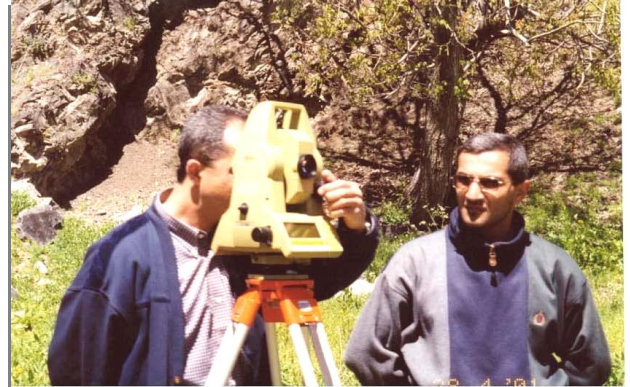


# GARNI-YEREVAN WATER SUPPLY SECTOR TRANSFER TO GRAVITY SYSTEM

**Country:** Republic of Armenia

**Client:** World Bank, MDPMU

**Duration:** May - July 2001



## Terms of Reference:

1. Pre-design investigations and modeling of the operating system.
2. Design task clarification, draft design preparation.
3. Development of working designs and tender documentation.

## ***Brief description of project and services provided***

- ✓ Garni-Yerevan operating water supply system was investigated. During instrumental investigations detection of 35.0km long water transmission main route, determination of diameter change limits, measurements and records of flows and pressures in dictating points were carried out.
- ✓ Based on the results of field investigations hydraulic modeling of the operating pipeline was carried out by means of EPANET software.
- ✓ Based on field investigations and hydraulic modeling the real picture of the water main, its carrying capacity and actually transmitted water quantity were cleared up.
- ✓ Three proposals of design options were developed, feasibility substantiation were prepared, based on the results of which the design task was cleared up.
- ✓ About 20km long water main from Ø800mm and Ø900mm steel electrically welded pipes was designed.



- ✓ Two new spring intakes were designed.
- ✓ 34 various water supply joints (break pressure chamber, outlets, air joints, water metering and other joints) were designed.
- ✓ Reconstruction of chlorination station building and installation of dry dosing vacuum chlorators system was planned.
- ✓ By working design technological and construction drawings, construction works organization draft, bill of quantities, technical specifications were developed. Tender documentation and international procurement documentation packages were submitted.
- ✓ Working designs were developed by means of LisCAD, AutoCAD, ArcView GIS softwares.

## Project objective

1. Increasing reliability of water supply to the districts fed from Garni-Yerevan system.
2. Reduction of operation costs by means of transfer from pressure system to totally gravity system.
3. Increase of water quantity supplied by Garni-Yerevan system.