

Gadouras dam, water treatment and supply works in Rhodes island

Project description

Scope:

Consulting services to the client for the bidding and construction supervision.

Tender Documents review and update.

Validation of submitted bills of quantities and contractor payments.

Quality control.

EU funding assistance

Description:

The project includes the Gadoura dam and appurtenant works construction, the water mains to the town of Rhodes (including a small tunnel), the water treatment plant construction.

The project will service the long-term region water supply needs.

The project is funded by National Sources and the E.U.

The dam height is 60m. The embankment dam is earthfill type with an impervious core and the reservoir capacity is ~65 hm³.

The water intake consists of a four level inclined tower at the right abutment which is connected to a D1300 pipe in the diversion-intake tunnel.

The spillway is situated in an adjacent saddle dam, 15 m high.

The water mains is 44 km long, with a maximum capacity of 1.55m³/sec.

The treatment plant has 60.000 m³/day capacity for phase A and 120.000 m³/day capacity for the final phase. It consists of energy dissipation headworks, coagulation unit, sludge blanket clarification unit, gravity filters, disinfection unit and storage tanks.

Project details

Services:

[Consulting](#) [1]

Consulting Services:

Technical

Management

Expertise:

[Dams and Reservoirs](#) [2]

[Environmental](#) [3]

[Procurement](#) [4]

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Country:

Greece

Region:

Prefecture of Dodecanese, Rhodes island

Client:

Hellenic Ministry of Environment, Physical Planning and Public Works / Hellenic Ministry of Development, Competitiveness, Infrastructure, Transport and Networks

Services provided:

Co-ordination and representation of professional individuals and companies forming the Joint Venture for the technical and managerial provision services.

Multiple contracts required:

- ? Dam and relevant works Studies validation - design conformity, determination of revision needs and approval
- ? Implementation of Dam embankment stability analysis and settlement study implementation
- ? Spillway stilling basin detailed design
- ? Design of revised water intake structures
- ? Evaluation of Water treatment plant studies, revisions
- ? Water treatment plant construction supervision
- ? health and safety coordination during construction and environmental quality assessment
- ? Tender documents preparation for the remaining Dam and relevant works
- ? Tender Documents review and update for the water pipeline
- ? Specifications and evaluation of Water Regulating authority study? Phase A
- ? Pipeline and water tanks construction supervision
- ? Water quality analysis assessment
- ? Consulting services to the client for the bidding and construction supervision
- ? Validation of submitted bills of quantities and contractor payments
- ? Quality control.
- ? EU funding assistance

Implementation:

The technical and management consultant provision of services included:

- Resident engineers. Specialised staff was assigned on site
- Existing data were reviewed (studies, investigations etc)
- Regular onsite visits and meetings with the client and experts were made
- Experienced scientific staff

Services current status:

Completed

Construction progress:

Under construction

Remarks:

- Dam is complete. Pipeline to WTW is complete. Water Treatment Works and pipeline to Rhodes are nearly complete.
- S. Lazaridou, ?. Kavvadas, V. Perleros, L. Somakos, P. Marinos ?Geological and Geotechnical Issues in the Construction of Gadouras Dam, Rhodes Island?, 15th European Conference on Soil Mechanics and Geotechnical Engineering, ?Geotechnics of Hard Soils ? Weak Rocks?, 12-15 September 2011 Athens, Greece, Vol.2, pp.1159-1164. The Paper was presented by S. Lazaridou on discussion session 4.1: ?Embankments and Dams?
- P. Marinos, ?. Kavvadas, ?. Kotsonis, L. Somakos, V. Perleros, S. Lazaridou ?Geological and Geotechnical aspects confronted during the Gadoura Dam construction ? Project technical data?, presented by S. Lazaridou, 1st Hellenic Large Dams Conference, Larissa, 13-15/11/2008
- E.I. Daniil and L.S. Lazarides, Designer?s concerns on the effect of rainfall distribution on dam and

diversion works sizing, IAHR XXX Congress, Thessaloniki, GREECE, 24-29 August 2003, Theme B: 95-102.

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