



Water & Waste

Water Supply & Wastewater Systems,
Treatment Plants, Irrigation & Drainage
Storm Water Collection and Discharge
Water Resources Management & Flood Control

LEEAD





Douera Irrigation Dam, Algeria
Infrastructure & Supervision

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Treatment Plants, Irrigation & Drainage
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LEEAD Consulting is highly involved in the Water & Waste market, offering solutions for:
Water Supply & Wastewater Systems, Treatment Plants, Irrigation & Drainage, Storm Water Collection and Discharge, River and Stream Training, Water Resources Management & Flood Control.

As leaders within our respective fields, we offer the following high quality services for your project:

Hydraulic Engineering

- Project Identification
- Studies and Surveys
- Master Plans
- Feasibility Studies
- Preliminary Design
- Final Design
- Tender Documents
- Construction Supervision
- Technical Assistance
- Environmental Impact Assessments
- Technical Training
- Project Management
- Project Monitoring and Evaluation
- Specialized Software Development

Environmental Studies

- Sustainable Design
- Environmental Assessments
- System Reliability
- Energy Conservation
- Systems & People Safety
- Environmentally Friendly Systems
- Automated operations, and user comfort
- Environmental Protection
- Water and soil pollution
- Solid, Industrial and Toxic Wastes Collection
- Treatment and Disposal

Geotechnical Engineering

- Geotechnical Investigations and Evaluation
- Geological and Hydro geological Studies
- Stability of Embankments
- Earth reinforcement Works

Selected Projects

Jebel Ali Sewage Treatment Plant

Control Automation and System Integration, Dubai, U.A.E.

Infrastructure & Environmental

The Jebel Ali Sewage Treatment Plant (STP) is located in a 670 Ha open desert area south of Jebel Ali, near Dubai, Lahbab road and east of the proposed Outer bypass road.

The STP is designed for a capacity of 300,000 m³/day. The process facilities are designed for secondary treatment. After the treatment the water will have characteristics for unrestricted disposal and will be used for irrigation and sludge will be suitable for energy exploitation. UV disinfection and full sludge treatment made part of this project.

Services included:

Plant process and control philosophy implementation, Rewriting and integration of PFS / Cause and effect matrix analysis / Revision of P and I / Automation system dimensioning / Design of the DCS and system architecture / Network interconnection / Detailed I/O scheduling and mapping.



Psyttalia Wastewater Treatment Plant

Serving the Greater Area of Athens, Greece

Infrastructure, Environmental & Supervision

The Athens greater area treatment plant, located on uninhabited Psyttalia island at 2 km from the west coast of Piraeus is one of the largest in the world (3,300,000 inhabitants). The treatment installations on the island ensure the treatment of a peak of 27m³/s (Phase II). They include primary treatment, disinfection and disposal of treated wastewater into the sea.

Full sludge treatment and methane collection (used for heating the digesters and for electricity production) are operational.

Services rendered included: Participation in the preparation of the technical bid of the joint- venture concerning the conception and the elaboration of the master plan and general plan for the construction of the treatment station.

After contract award: planning, technical studies, process evaluation, hydraulic and geological studies, final design, construction drawings, technical assistance to contractors during the construction of the works, during commissioning and trial operation.



Kuwait Towers

Water Tower Design, Kuwait City, Kuwait

Structural Design & Supervision

The project comprised a complete structural design, detail drawings and assistance to the specialized contractor during construction for the application of circumferential pre-stressing in the foundations and in the spherical shells of the two water towers that have become a landmark of Kuwait City.



Selected Projects

Thessaloniki Wastewater Treatment Plant

Extension and Completion, Technical Assistance, Greece

Infrastructure, Environmental & Supervision

The second largest city of Greece, Thessaloniki, is served by a WWTP at a design capacity of ca. 1,400,000 PE by the year 2015.

Works of Stage II mainly concern the extension and completion of the existing installations for the complete biological treatment of the city's wastewater, including nitrogen removal for disposal of effluent to a sensitive marine environment (Thermaikos gulf).

Services provided were:

Assistance for project management / Master Plan / Review of final designs and of construction drawings, prepared by the contracting J.V. / Design and T.D. of septage and industrial liquid wastes treatment units / Supervision of construction (similar to FIDIC conditions) / Environmental impact considerations / Supervision during trial operations and commissioning / Monitoring of the construction quality programme and hygiene and safety in construction / Reporting on physical and economical progress / Preparation of funding application submitted to the EU Cohesion Fund.



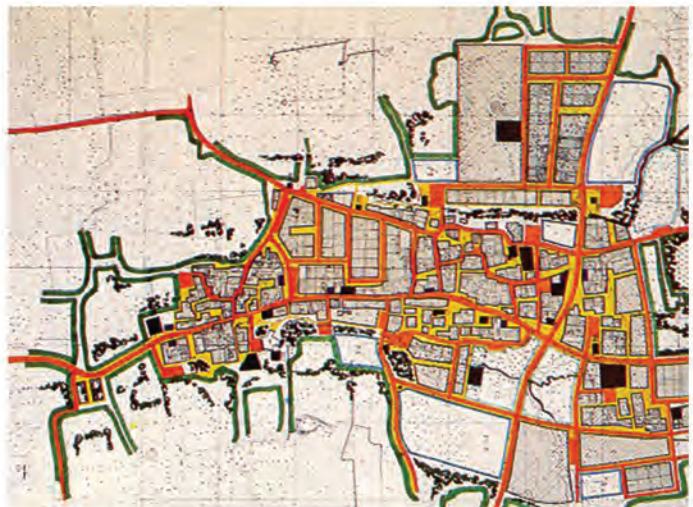
Upgrading Rural Villages

Rehabilitation Program, Bahrain

Infrastructure & Supervision

A detailed program for the rehabilitation of the Western and Southern Region villages was developed including new housing standards, pilot projects along with roads and utilities upgrading.

This was followed by the detailed design and supervision of the infrastructure for the villages of Budalyah and Karranah in the western region of the Emirate including water, storm water, sewage, treatment plants, rural irrigation as well as roads and street furniture, lighting and landscaping.



Water Supply and Sanitation Improvement

Formulation and Appraisal Study, Ethiopia

Infrastructure & Environmental

The project's scope was the formulation and appraisal study for Addis Ababa water supply and sanitation improvement project, in order to form projects to be financed by the European Commission. The aim was to raise the standard of living for the 2,000,000+ inhabitants.

The areas covered were:

Rehabilitation, upgrading, extension of water supply and wastewater systems of Addis Ababa / water treatment plants / transmission and distribution pipelines / sewerage pipelines / wastewater treatment plants / sludge collection, dewatering / sludge pilot disposal in forest / community based project

Services rendered were:

Recommendations for the alleviation of inadequate water supply and sanitation / Gafarsa dam stability study / Outline design / Preparation of Terms of Reference for the final design and supervision / Log-frame Workshop and Report / Mechanical and electrical scope of works for water supply and sanitation / Environmental assessment / Financial and economic feasibility analysis



Water Supply and Wastewater Sectors

Engineering Services for NERP, Lebanon

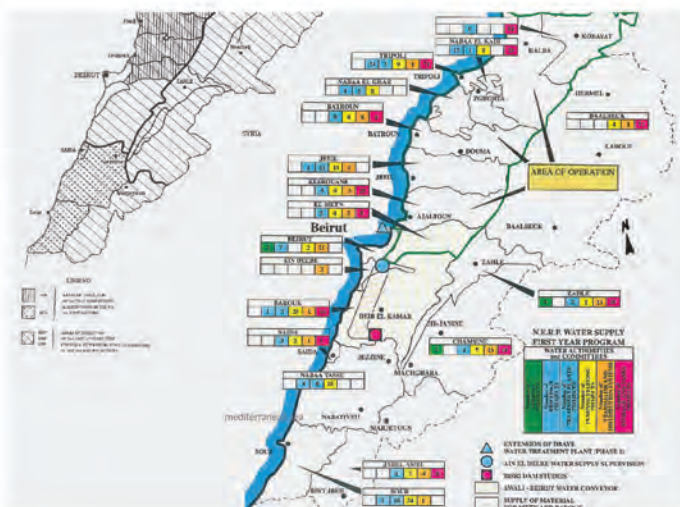
Infrastructure, Environmental & Supervision

Rehabilitation works of the first year of NERP (National Emergency Recovery Programme) in the water supply and wastewater sectors in the Northwestern regions of Lebanon made part of this project. Furthermore, the project involved the reconstruction and upgrade of infrastructure works during the 2nd and 3rd year of NERP for the entire country except for the Greater Beirut area.

Services included: detailed field investigations, supervision of construction according to FIDIC, review and update of previous designs, review of contractor's drawings, project coordination and cost control, assistance in the final taking over of works, training and operation/ maintenance manuals.

Water supply: water treatment and borehole rehabilitation, spring capture works, chlorination stations, pumping stations, distribution systems and reservoirs.

Wastewater system: collection network, house connections and ancillary works, cleaning of sewer pipelines, detection and leveling of manholes, WWTP and sea outfall.



Douera Irrigation Dam

Construction Drawings and Supervision of Works, Algeria

Infrastructure & Supervision

The site of the Douera dam is located approximately 2km south-west of Douera and approximately 17km southwest of Alger. The catchment basin covers an approximate area of 10km². The dam will cover the irrigation needs of the area of Mitidja (17,200 ha) and will also reinforce the potable water needs of the city of Algiers.

The embankment consists of a watertight clay core and of two shells of earth materials with an embankment height of 75m, a crown length of 820m and a reservoir volume of 87,000,000m³. The volume of the excavations is 2,000,000m³, backfillings 6,500,000m³ and concrete for structures 21,500m³.

Services provided are construction drawings, supplementary design of the dam and of two small dams for the protection of village of Douera, supervision of works, final inspection and handing over to the Client.



Water Supply System

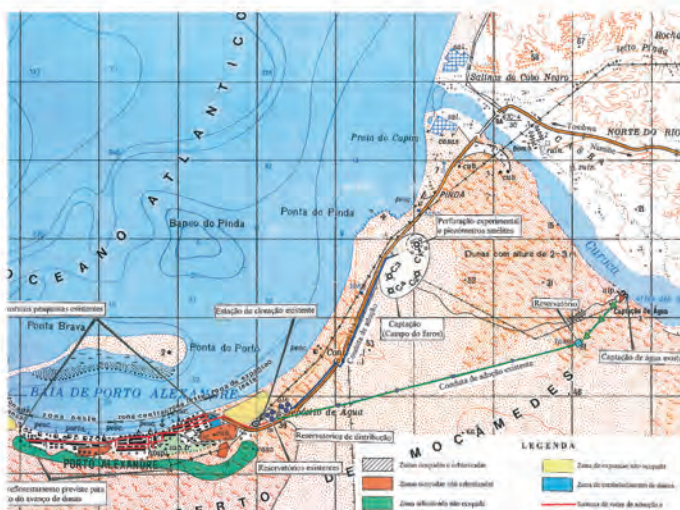
City of Tombwa, Angola

Infrastructure & Environmental

The construction of a new and updated water supply system was essential in order to replace the debilitated structure that provided water to the city of Tombwa. The Republic of Angola and the European Commission authorized the construction of a new water supply system for the inhabitants of Tombwa in an effort to provide the city with potable water in sufficient quantity.

The project consisted of two phases: Rehabilitation of existing main conveyance conduit and reservoirs, Construction of a new distribution system comprising of a disinfection installation, a conveyance conduit, distribution networks with asbestos-cement pipes as well as the necessary appurtenances.

The services rendered were:
Preliminary investigations (surveys, soil mechanics, etc.) / Final Designs / Supervision of construction / Technical Assistance to personnel and water supply department / Economic/tariff study including proposals for the organization of the water supply department.





Psytallia Wastewater Treatment Plant, Athens, Greece
Infrastructure, Environmental & Supervision

excellence. innovation. sustainability. all in one.

Contact

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