



CONSULTING ENGINEERING INCORPORATION

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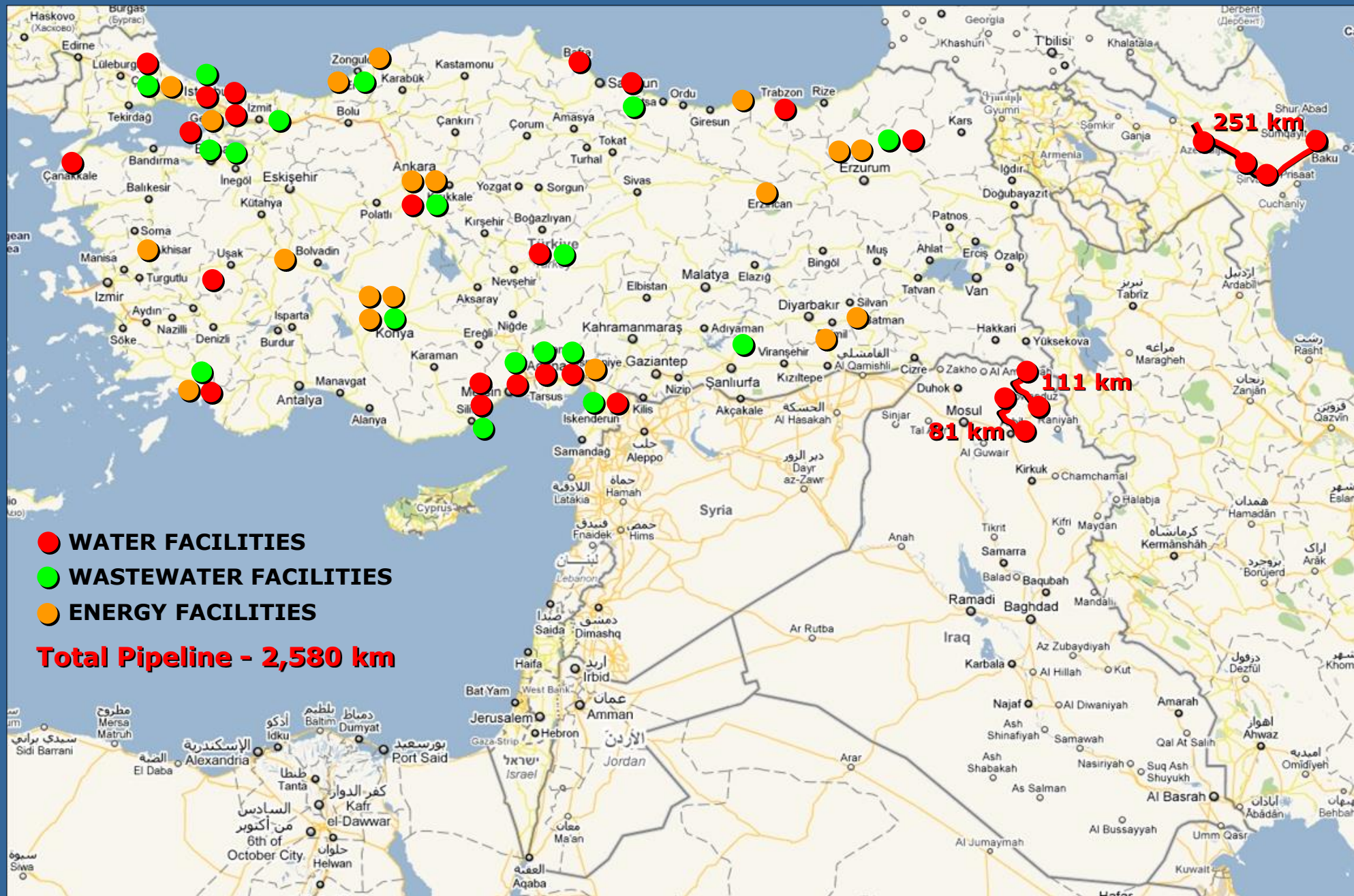
*since 1968*



**KEY REFERENCES**

**WATER & ENERGY FACILITIES**









As-Built Documentation  
Detailed Engineering  
Construction Shop Drawings  
Commissioning  
Start-up Inspections  
Geotechnical Studies  
Procurement Documentation  
Topographical Surveys

**251 km**  
**DN 2000 mm**



Oguz - Gabala - Baku Water Pipeline  
Water Supply to City of Baku  
from Underground Wells at Oguz Region  
(251 km, 5 cum/sec., Gravity Pipeline)

DN 2000 GRP Pipe (197 km)  
DN 2000 STEEL Pipe (54 km)  
Pirsaat Discharge Line (615 m)  
Jeyranbatan Discharge Line (4,196 m)

## Pressure Classes

PN 10, PN 16, PN 20, PN 25

## Pipeline Structures

Flow Control Valve Station (FCV)

Pressure Break Chamber (PBC)

Pressure Control Valve Station (PCV)

8 Flowmeter Valve Pit

135 Air Release Valve Station

169 Water Discharge Valve Station

## Pipeline Crossings

12 River, 9 Highway Crossing

14 Pipeline, 8 Fault Line Crossing

## Facilities at +190 m Elevation

Pressure Break Chamber

Chlorination Building

Administration Building

Workshop and Storage Building

Open Material Storage, Guard House

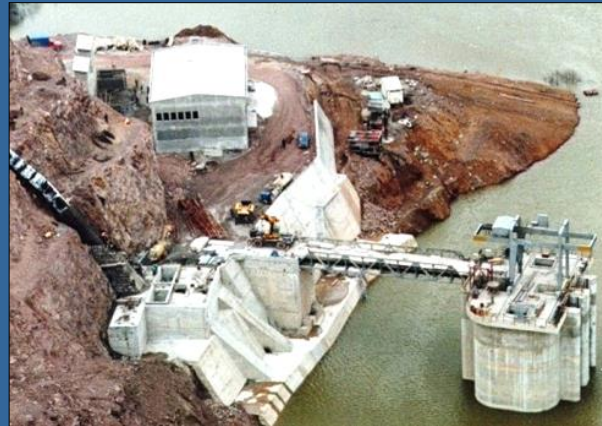
Transformer Station (400 kVA)





Tender Evaluation  
Construction Supervision  
Commissioning  
Start-up Inspections  
Project Management

**113.000.000  
cum**



**Rock Fill Embankment Dam**  
**113.000.000 cum Reservoir Capacity**

## **Dam Body**

Cret Elevation : 57.50 m (308 x 10 m)  
Body Height From Thalweg (47.50 m)  
Body Height From Base (73.50 m)  
Max. Width at Base (180 m)  
Max. Water Level (55.42 m)

## **Spillway**

Free Opposite Receiving  
Unloading Channel (w 30 m)  
Energy Breaking Pool (21.96 m)  
Outlet Channel Trapezoidal (w 40 m)

## **Derivation Tunnel**

Concrete (Dia. 3 m, 256 m)

## **Main Water Transfer Line**

Steel Pipe (Dia. 1,8 m, 4,788 m)

## **Pump Station and Water Intake**

Intake Capacity (346.000 cum/day)

Pump Station Top Elevation (58 m)

6 Pump-Motor Group (2,000 kW)

Control Building (610 sqm)

Bottom Spillway (Dia. 1.30 m, 79 m)

Transfer Tunnel (Dia. 4 m, 1,574 m)

2 x 12.5 MVA Transformer

2 Air Furnace (Dia. 2 m, H 6 m)

1 Balance Shaft (Dia. 8 m, H 21 m)





**Detailed Engineering**  
**Cost Estimations**  
**Tender Documentation**  
**Construction Specifications**  
**Geophysical Studies**  
**Geotechnical Studies**  
**Topographical Surveys**

**500.000**  
**cum/day**



**Capacity Increase of the Existing**  
**Raw Water Treatment Facility**  
**from 300,000 cum/day to 500,000 cum/day**

**Raw Water Treatment Facility**  
**(500,000 cum/day)**

**Entrance and Aeration System**

**Rapid Mixers**

**8 each Sedimentation Tank**

**24 each Rapid Sand Filter**

**Treated Water Storage Tank**

**Administrative Building**

**Chemical Building**

**Chlorination Building**

**Filter Pressure Unit**



**Raw Water Pipeline**

**Steel Raw Water Pipeline**

**1,000 m Long, 2200 mm Diameter**





Detailed Engineering  
Geophysical Studies  
Geotechnical Studies  
Topographical Surveys

**111 km**  
**32,500 cum/day**



Bardari Spring Intake (32,500 cum/day)  
Chama River Intake (32,500 cum/day)  
**Chama Water Treatment Plant (32,500 cum/day)**

Pump House, Reception and Guard Room  
Generator Building, Car Parking Garage  
Filter Building, Chlorination Building  
Administration, Chemical Buildings

Water Storage Tank (4,500 cum)

2 Sedimentation Tank (4,690 cum)

4 Staff House, Access Road

**Pump Stations and Main Storage Tanks**

Kani Linj PS and ST (2,750 cum)

Malasuwar PS and ST (2,000 cum)

Mergasur Main ST (4,000 cum)

Bersaw Main ST (2,700 cum)

Bana Main ST (2,700 cum)

**Pipelines**

Ductile Cast Iron Pipes

Diameter (100 - 600 mm)

Forced Lines (31 km)

Gravity Lines (80 km)

**Water Storage Tanks at Villages**

26 Storage Tank ( 89 cum)

10 Storage Tank (223 cum)

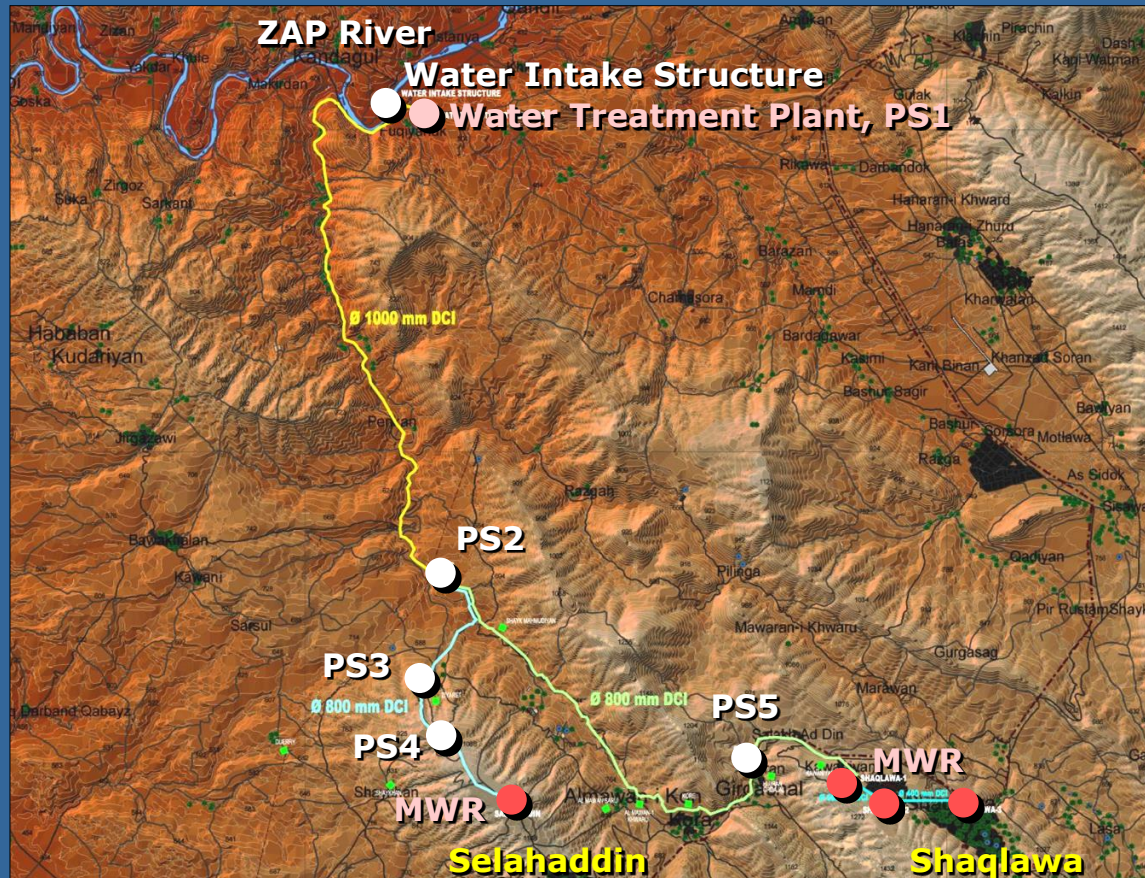
6 Storage Tank (315 cum)





Cost Estimations  
Basic Engineering  
Topographical Surveys

**81 km**  
**100,000 cum/day**



Zap River Raw Water Intake (100,000 cum/day)  
**Water Treatment Plant, PS1 (100,000 cum/day)**  
Grit Chamber, Aeration, Coagulation, Flocculation  
5 Sedimentation Tank, Sludge Thickening Tank  
Treated Water Storage Tank (5,100 cum)  
Recovered Effluent Pump Station  
Chemical and Chlorine Buildings  
Filter Building (5 m<sup>3</sup>/m<sup>2</sup>/hr)  
Pump Station (5,400 cum/h)  
Administration Building  
Generator (8,000 kVA)  
Sludge Lagoons

## **Pump Stations and Main Storage Tanks**

Pump Station PS2 (5,100 cum)  
Pump Station PS3 (5,100 cum)  
Pump Station PS4 (3,200 cum)  
Pump Station PS5 (3,200 cum)

## **Main Water Rezervoirs**

Salahaddin MWR (25,000 cm)  
Shaqlawa MWR (3x10,000 cm)

## **Pipelines**

Ductile Cast Iron Pipes (81 km)  
Diameter (100 - 1000 mm)

## **Power Supply to Facilities**

33 KV MV O/H Lines (48 km)  
33 KV MV Switchgear Buildings  
Power Transformers (Total 30 MVA)





**198 km**

Detailed Engineering  
Cost Estimations  
Tender Evaluation  
Tender Documentation  
Construction Specifications  
Commissioning  
Geophysical Studies  
Geotechnical Studies  
Topographical Surveys

Financed by World Bank within the scope of  
Cukurova Urban Development Project  
**(World Bank Financed)**

## **Sewage System**

140 km, 200-600 mm Concrete Pipe  
5,5 km, 700-900 mm Concrete Pipe  
5,082 Vent  
3,665 Service Connection  
3 Underground Pump Station

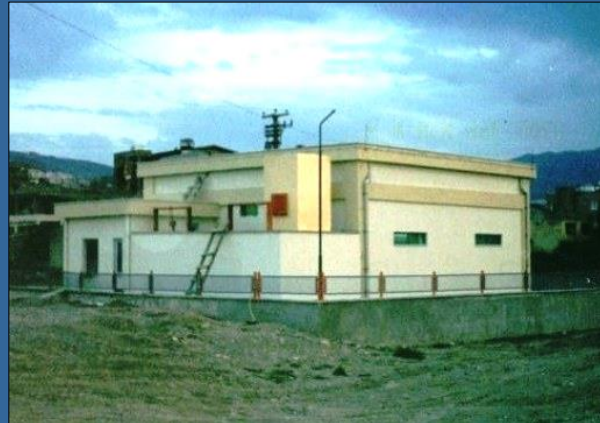
## **Stormwater Drainage System**

28,5 km, 200-600 mm Concrete Pipe  
3,6 km, 700-900 mm Concrete Pipe  
20,7 km, 160 mm PVC Pipe  
801 Vent

Concrete Drainage Channels  
9 Underground Pump Station

## **Waste Water Treatment Plant**

WTP for 438,030 Population of  
Iskenderun at Year 2020





**23 km**

**Detailed Engineering  
Cost Estimations  
Tender Documentation  
Construction Specifications  
Geophysical Studies  
Geotechnical Studies  
Topographical Surveys**

**Sarikamis Cibiltepe Tourism Center  
New Hotels Area, Culture and Sports Complex  
Infrastructure Facilities**

**Sewage Network (12,000 m)  
Potable Water Network (11,000 m)**



**Wastewater Treatment Plant**  
**4 Facultative Aerated Pond  
(60 m x 18 m x 3 m)**  
**1 Coarse Grid, 1 Fine Grid**  
**1 Sand Filter, 1 Flowmeter**  
**Flow Dispensing, Collecting Structures**  
**Administration and Guard Buildings**  
**Transformer and Generator (50 KVA)**





**404 km**

Environmental Impact Study  
Detailed Engineering  
Economic and Financial Analysis  
Cost Estimations  
Tender Documentation  
Construction Specifications  
Geophysical Studies  
Geotechnical Studies  
Topographical Surveys

## Sewage and Wastewater Network

Network Lines (401,382 m)

Collector Line (772 m)

Parcel Connections (121,500 m)

11,136 Network Inspection Chimney

7 Collector Chimney

## Stormwater Network

Network Lines (3,060 m)

76 Network Inspection Chimney

200 Stormwater Inlet

Stormwater Inlet Connections (800 m)

## Wastewater Treatment Plant (66,586 cum/day)

Administration and Workshop Building

4 Anaerobic Basin

2 Aerification and Sedimentation Basin

6 Facultative Stabilization Basin 1 Step

2 Facultative Stabilization Basin 2 Step

2 Sludge Lagoon

Guard House







Detailed Engineering  
Cost Estimations  
Geotechnical Studies  
Basic Engineering  
Topographical Surveys

**244 km**

**Gemlik Sewage and Stormwater System**

**Nilufer Sewage and Stormwater System**

**Sukriye Sewage System**

**Ayvalidere and Ayaftama Creeks Rehabilitation**

**Gemlik Carsi Channel Partial Rehabilitation**



**2 Sewage Booster Pump Station**  
**1 Stormwater Booster Pump Station**

**Sewage System**

**Pipe Diameter (200 mm-1000 mm)**

**First Stage Network (114 km)**

**Second Stage Network (66 km)**

**Stormwater System**

**Pipe Diameter (400 mm-1800 mm)**

**First Stage Network (46 km)**

**Second Stage Network (10 km)**

**Creek Rehabilitation System**

**Total Creek Rehabilitation (8,3 km)**







**Detailed Engineering  
Construction Specifications  
Geotechnical Studies  
Topographical Surveys**

**Main Collector Line**

**8 km Long and 2.4 m Diameter and Manholes**

**5 each 10 m Long Bridge on the Cark River**

**8 km**

**Rehabilitation of Cark River  
With Concrete Pavement and Rip-Raps**

**5 mt Wide Pedestrian Walkways  
on Each Side of the Cark River**

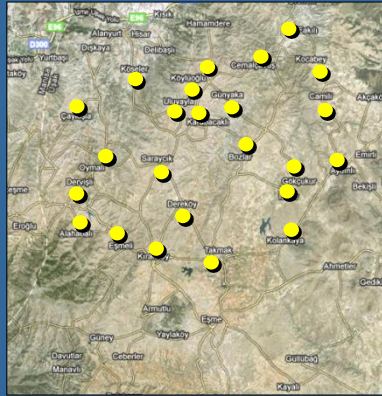






9718

192 km



## Usak, Esme and Alahabali Towns Water Supply System

40 km Main Water Network

152 km Distribution Network

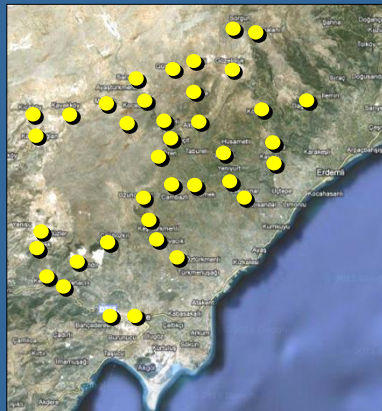
Water Intake Structure

Main and Village Water Storage Tanks



8706

613 km



## Icel, Erdemli and Silifke Towns Water Supply System

369 km Main Water Network

244 km Distribution Network

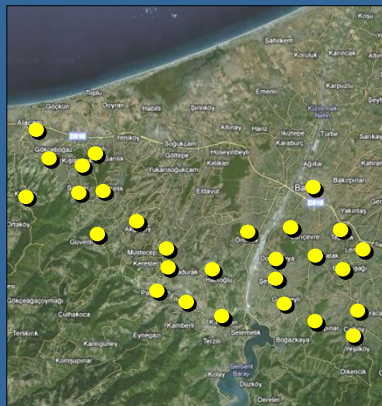
Water Intake Structure

Main and Village Water Storage Tanks



8705

409 km



## Samsun, Bafra and Alacam Towns Water Supply System

236 km Main Water Network

173 km Distribution Network

Water Intake Structure

Main and Village Water Storage Tanks





0503

## Bursa Demirtas Organized Industrial Zone Infrastructure Systems

Internal Roads 8, 10, 15, 20 m Width Total 4,440 m

Sewage Network 300, 400, 500, 600, 800 mm HDPE Total 2,500 m

Storm Water Network 300, 400, 500, 600, 800, 1000 mm HDPE Total 3,340 m



9710

## Konya Main Airforce Base Sewage System

15,130 m Long and 300 - 800 mm Dia. Sewage Network



8501

## Cukurova Metropolitan Region Urban Development Project

Renewal of Water, Sewerage and Transportation Systems at Cities

Mersin, Tarsus, Adana, Ceyhan and Iskenderun



7601

## Istanbul Bosphorous Subsea Pipeline

Construction of 2 each Steel Water Pipeline at İstanbul Bosphorus Between Sarayburnu and Salacak, 1800 m Long, API 5L X42, 1000 mm Diameter, 17.48 mm Wall Thickness, Interior Epoxy External PE Insulated, Laying of Pipes at Sea Bottom in Trench at Maximum 50 Depth, Cathodic Protection System and Hydrostatic Tests at 25 bar





**Construction Supervision  
Commissioning  
Start-up Inspections**

**135 MW**



**Total Installed Power (135 MW)**

**54 x 2.5 MW Wind Energy Turbine**

**Control and Office Building**

**Warehouse and Workshop**

**Electrical Switchgear Building**

**Switchgear Area (4,000 sqm)**

**1 x 125 MVA Transformer**

**3 x (2 x 954) MCM Main Busbar**

**954 MCM Transfer Busbar**

**2 Line Feeder**

**2 Transformer Feeder**

**1 Transfer Feeder**

**1 x 160 KVA Service Transformer**

**11 x 31.5 KV MV Switchgear**

**795 MCM Double Cond. O/H Line (7 km)**

**95 - 240 sqmm Underground Cables**

**12 Core Fiber Optic Cables**

**Communication and Scada Systems**

**Service Roads (40 km)**

**Akcadag Radar Building (260 sqm)**

**Akcadag Radar Building Road (13 km)**





Construction Supervision  
Commissioning  
Start-up Inspections

**12.3 MW**



## Girlevik II HEPP

Installed Power (2 x 1,440 kW)  
Annual Generation (12,980,000 kWh)  
Net Head (69.30 m)  
Steel Forced PL (Dia. 1.2 m, 212 m)  
Head Pond (40m x 7m x 7m)  
Intake Channel (7,330 m)  
Step-Up Transformer (2 x 1,600 kVA)

## Mercan HEPP

Installed Power (2 x 4,725 kW)  
Annual Generation (27,640,000 kWh)  
Net Head (216.70 m)  
Steel Forced PL (Dia.1.2 m, 683 m)  
Head Pond (46m x 7m x 7m)  
Intake Channel (10,028 m)  
Step-Up Transformer (2 x 5,220 kVA)

## Power Plant and Other Facilities

Power Plant (787 sqm)  
500 m Spillway Channel  
890 m Drainage Channel  
3 Chute, 2 Energy Breaker  
1,6 km Access Road  
160 kVA Transformer, 63 kVA Gen





**Detailed Engineering**  
**Cost Estimations**  
**Tender Evaluation**  
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**Frequency Converters at Aircraft Parking Apron**  
**for Ground Power Supply to AWACS Aircrafts**

## **Frequency Converters**

**3 x 312.5 kVA , 208 V, 400 Hz**

**1 kV, 1,400 m, LV Cable (1,400 m)**

**10 KV MV Cable (2,500 m)**

**1 x 33/6.3 kV , 7500 kVA Transformer**

**Transformer Building (1,000 kVA)**

**MV and LV Switchgear Systems**

**375 kVAR PF Correction System**



## **Munters Stationary Dehumidification** **Systems at AWACS A/C Parking Apron**

**3 x MS 900 - E Dehumidifier Unit**

**2x40 m Duct Arms for Cables and Ducts**

**Aircraft Air Duct Connection Set (30 m)**

**50 KVA Transformer**





**Detailed Engineering**  
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## Eregli Naval Base

**Power Plant (150 sqm)**

**Rectifier (1,500 KVA)**

**Transformer (1,250 KVA)**

**15 kV MV U/G Cable (800 m)**

**Pier Service Boxes**

**Charge and Discharge Systems**



## Golcuk Naval Base

**Power Plant (300 sqm)**

**Rectifier (2 x 1,500 KVA)**

**Transformer (2 x 1,250 KVA)**

**34.5 kV MV U/G Cable (2,000 m)**

**Pier Service Boxes**

**Charge and Discharge Systems**







### **Konya Main Airforce Base Electrical System Restoration**

**11,500 m, 6.3 KV Underground Cable**

**5 x 100-315 KVA Transformer**

**MV/LV Switchgear Systems**

**9804**



### **Batman Airfield Electrical System Restoration**

**7,790 m, 6.3 kV HV Cable , 20 Transformer Station**

**3 x 6.3 kV, 750 kVA Generator**

**31.5/6.3 kV, 2x2,500 kVA Power Station**

**9002**



### **Erzurum Kargapazarı Air Radar Site MV Overhead Line**

**27 km, 34.5 kV, Pigeon 3/0 and Patridge (266.800) Conductors**

**168 Steel Pole**

**13.5 km 1x50s/16 sqmm XLPE Underground Cable**

**9807**



### **Power Supply to Gölçük Naval Base Submarine Piers**

**For 1400 ton Submarines**

**70 sqm Converter Building, 100 KVA 115 V 60 Hz Frequency Converter and Pier Cable Connections**

**9401**



### **Air Radar Bases UPS and Generator Systems**

**160 KVA UPS and 200 KVA Automatic Generator Systems at Erzurum and Mardin Air Radar Bases**

**9514**



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