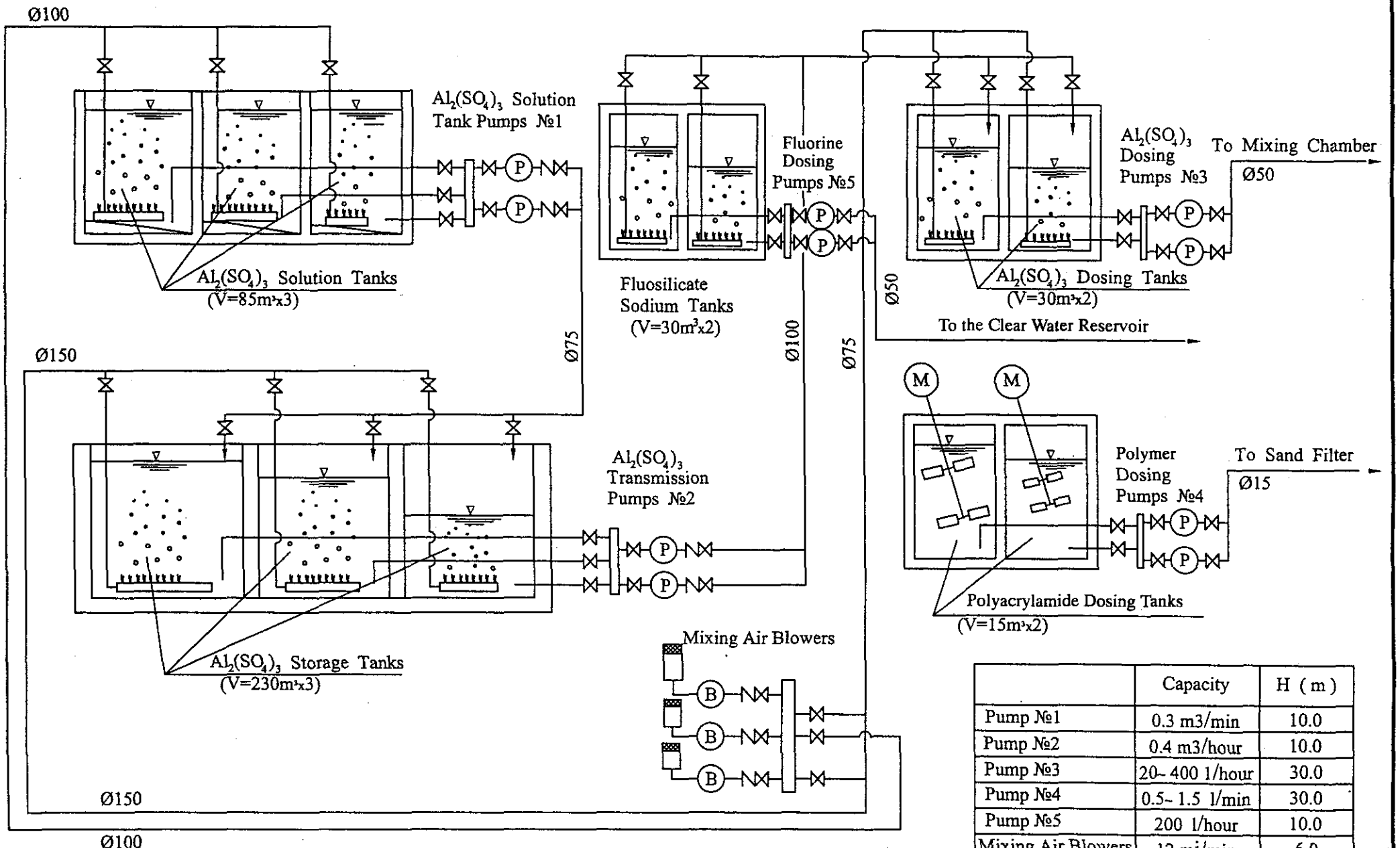
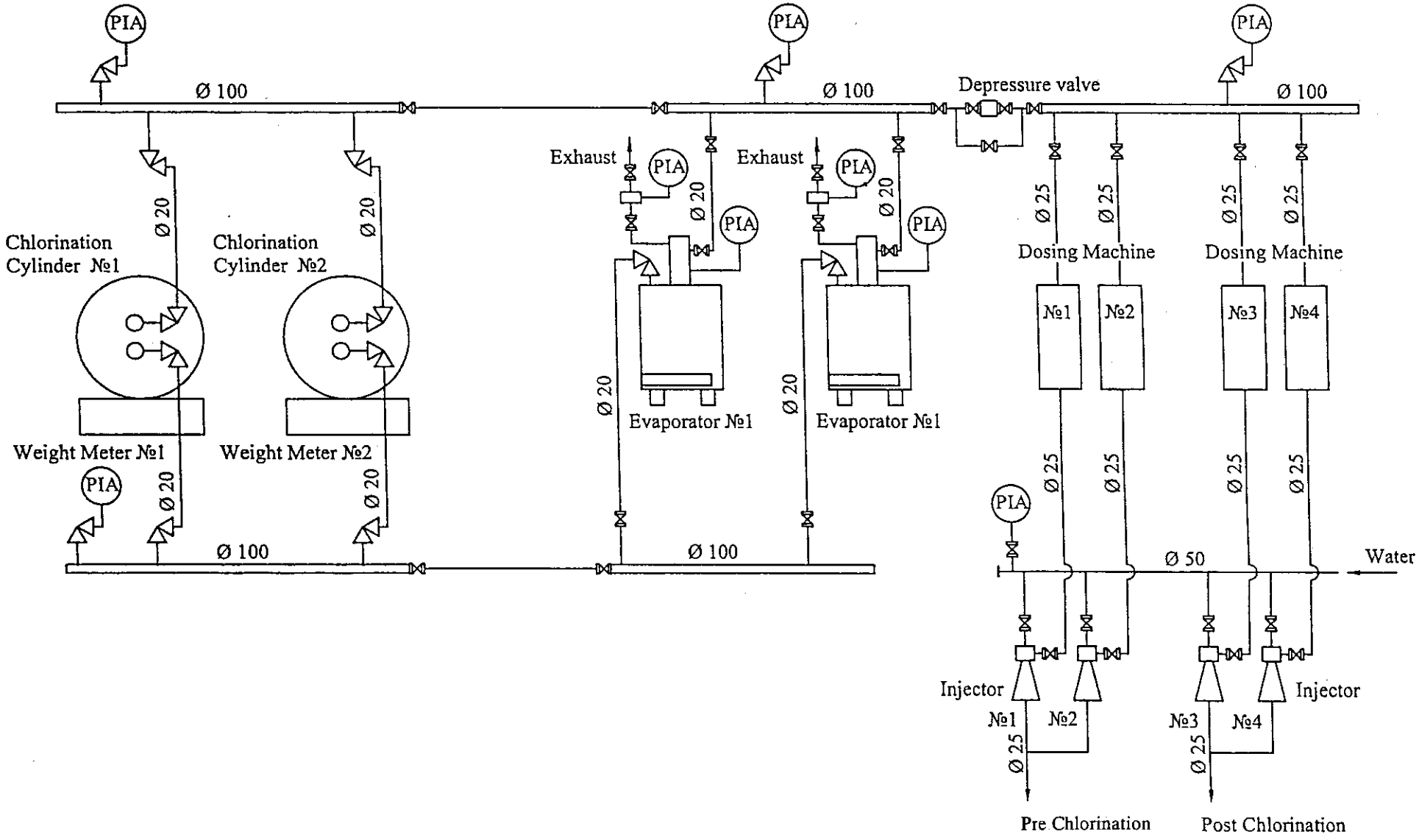
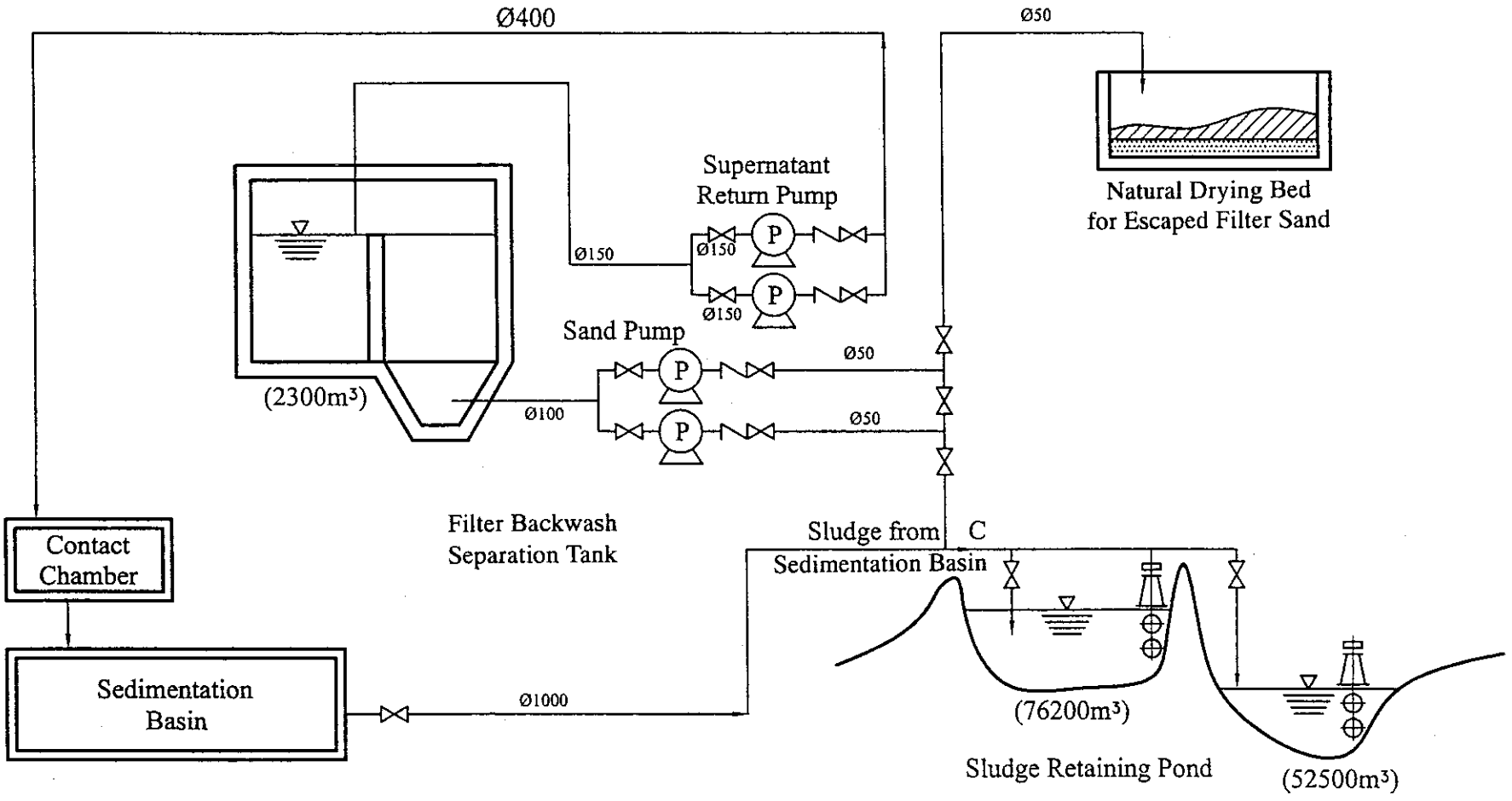


	Capacity	H (m)
Pump №1	0.3 m3/min	10.0
Pump №2	0.4 m3/hour	10.0
Pump №3	20~ 400 l/hour	30.0
Pump №4	0.5~ 1.5 l/min	30.0
Pump №5	200 l/hour	10.0
Mixing Air Blowers	12 mi/min	6.0

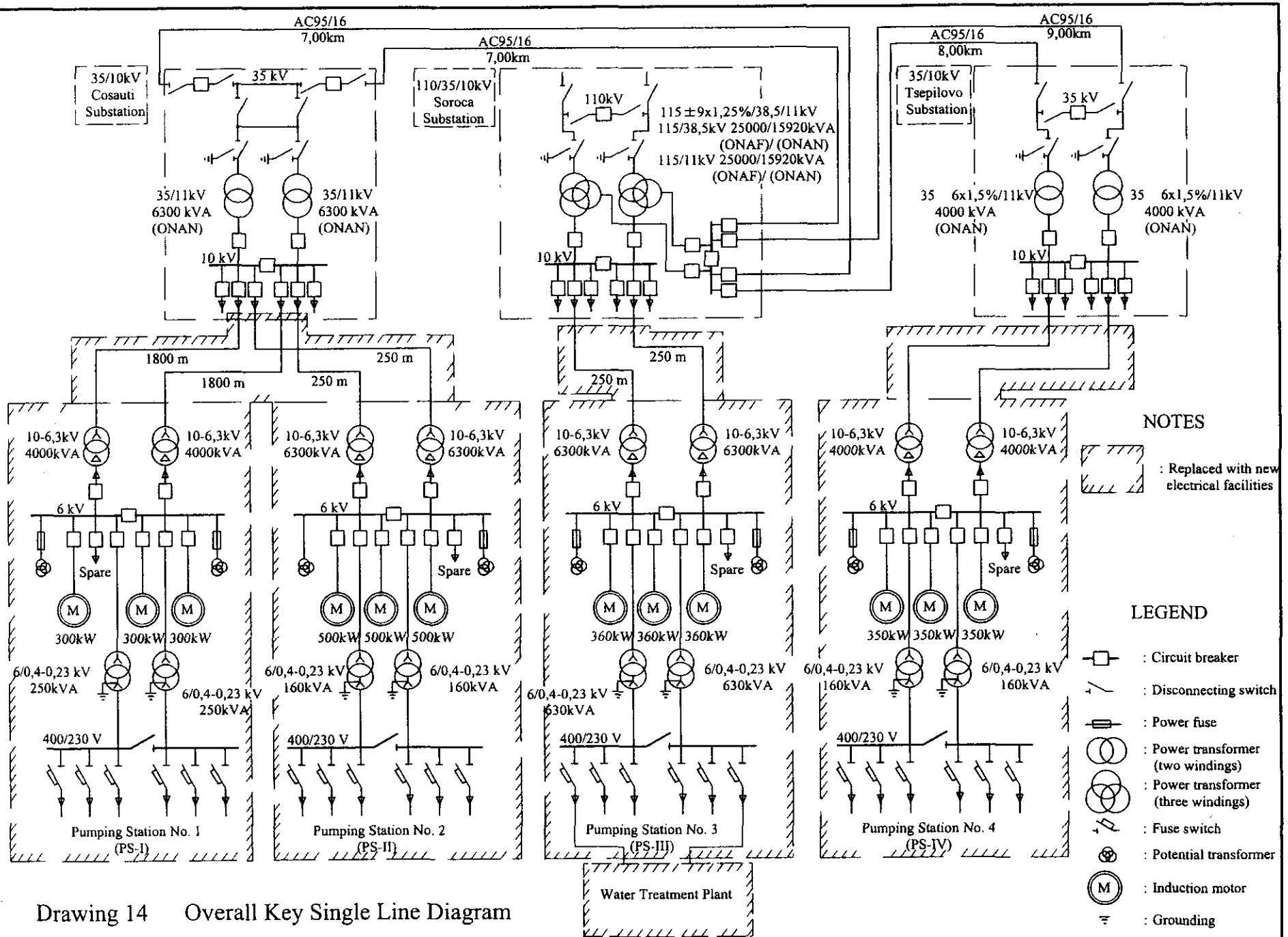
Drawing 11 Coagulant Solution and Dosing Diagram.



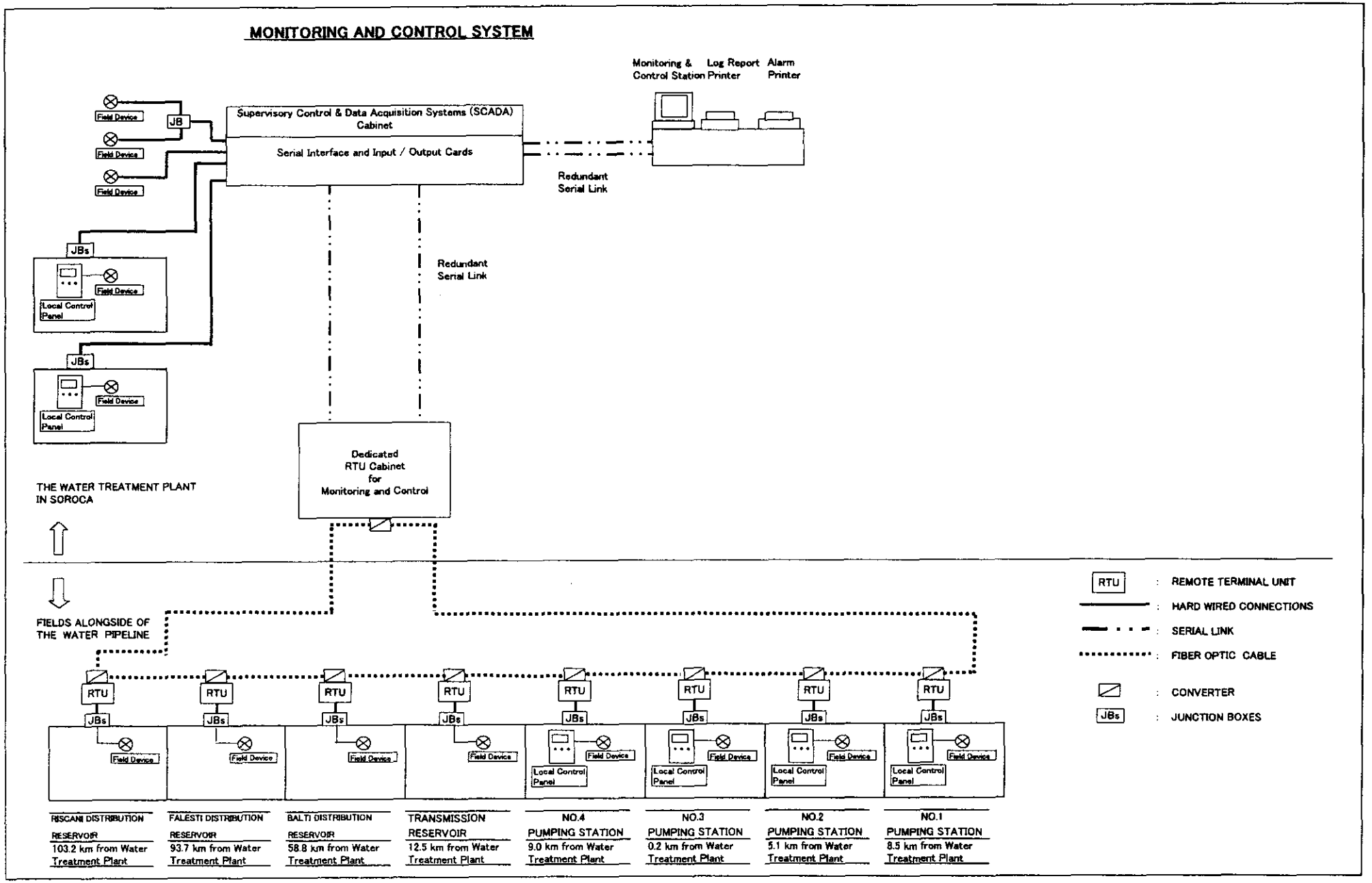
Drawing 12 Chlorination System Diagram



Drawing 13 Sludge Treatment Diagram

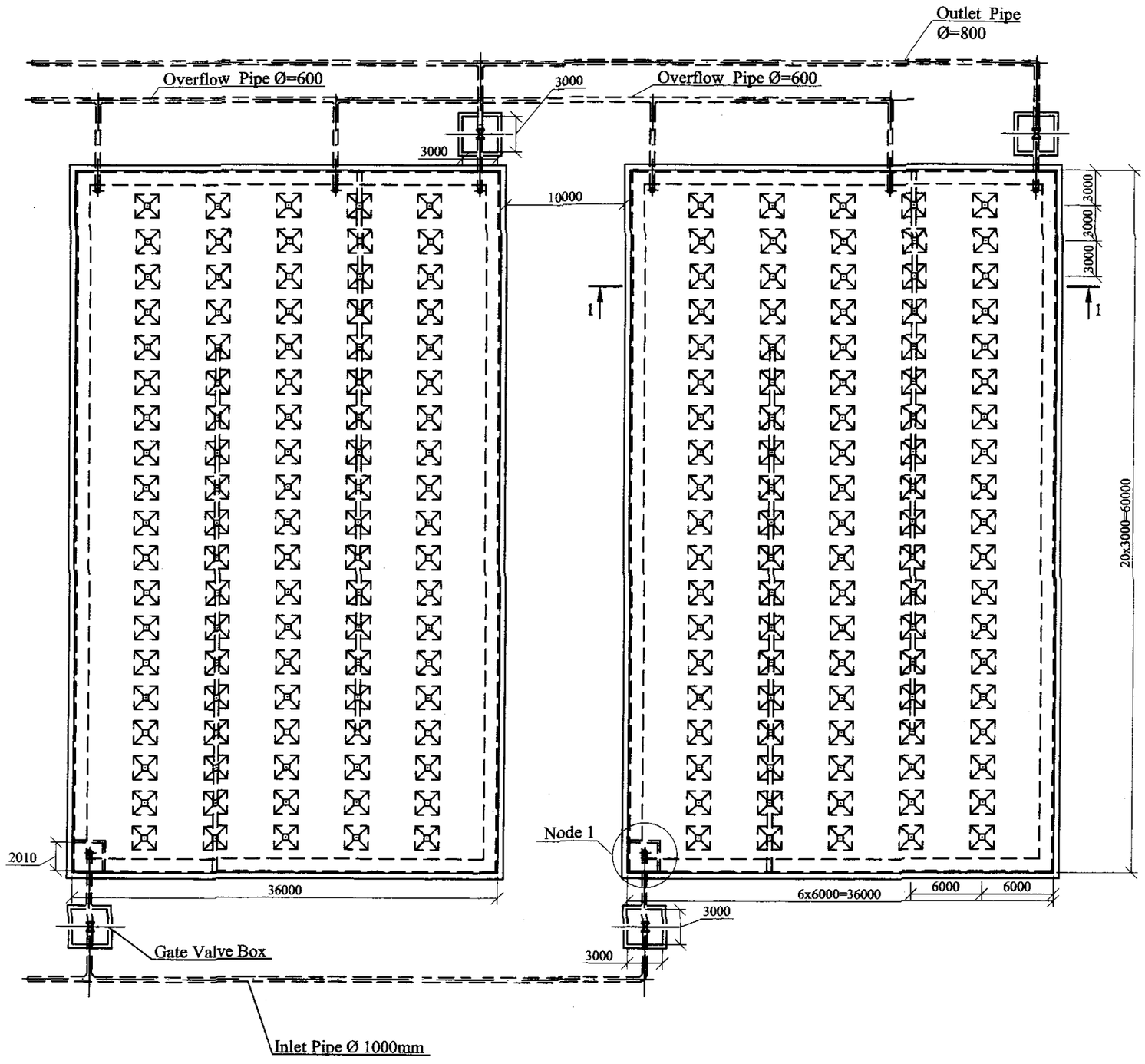


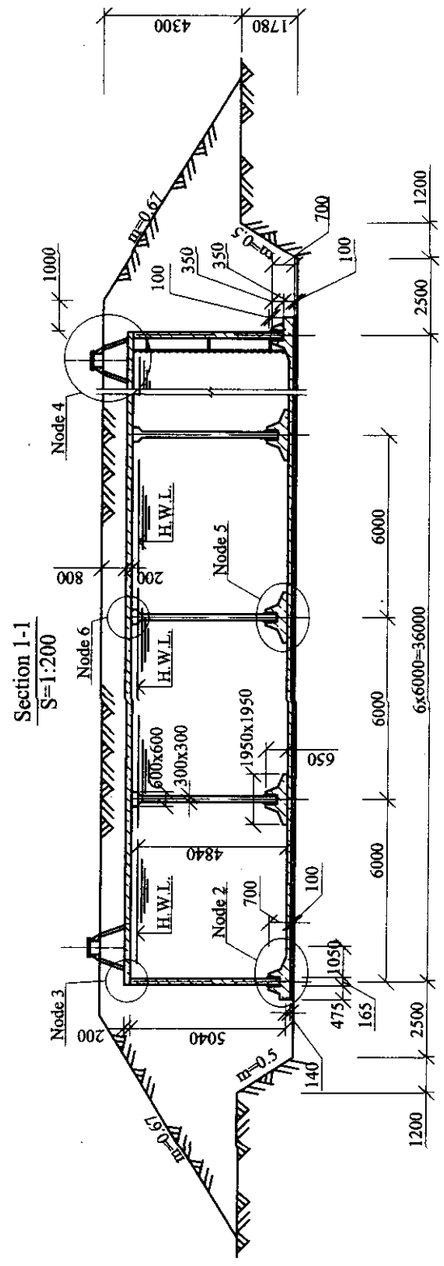
Drawing 14 Overall Key Single Line Diagram



Drawing 15 SCADA Configuration

Plan
S=1:400

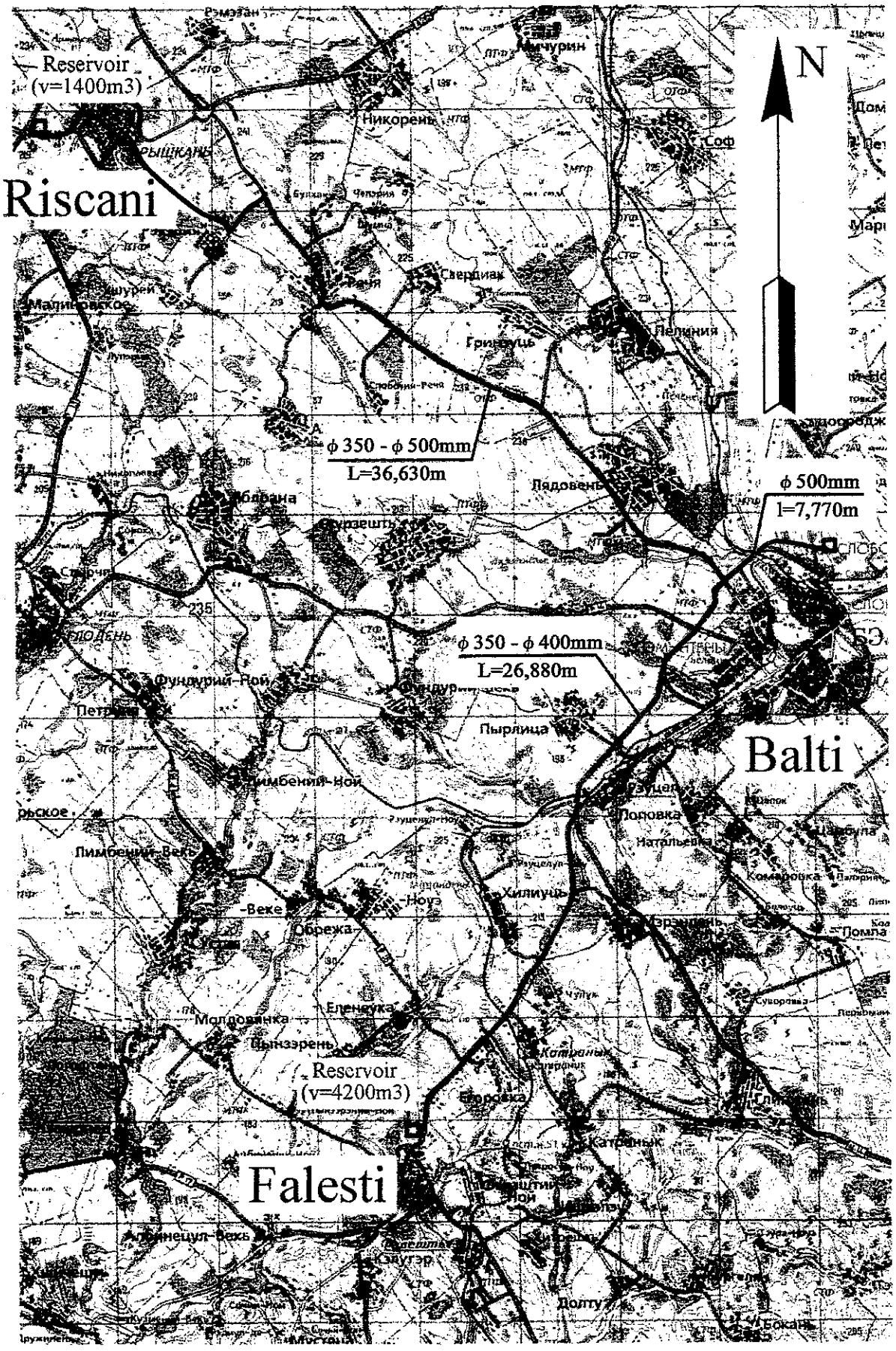




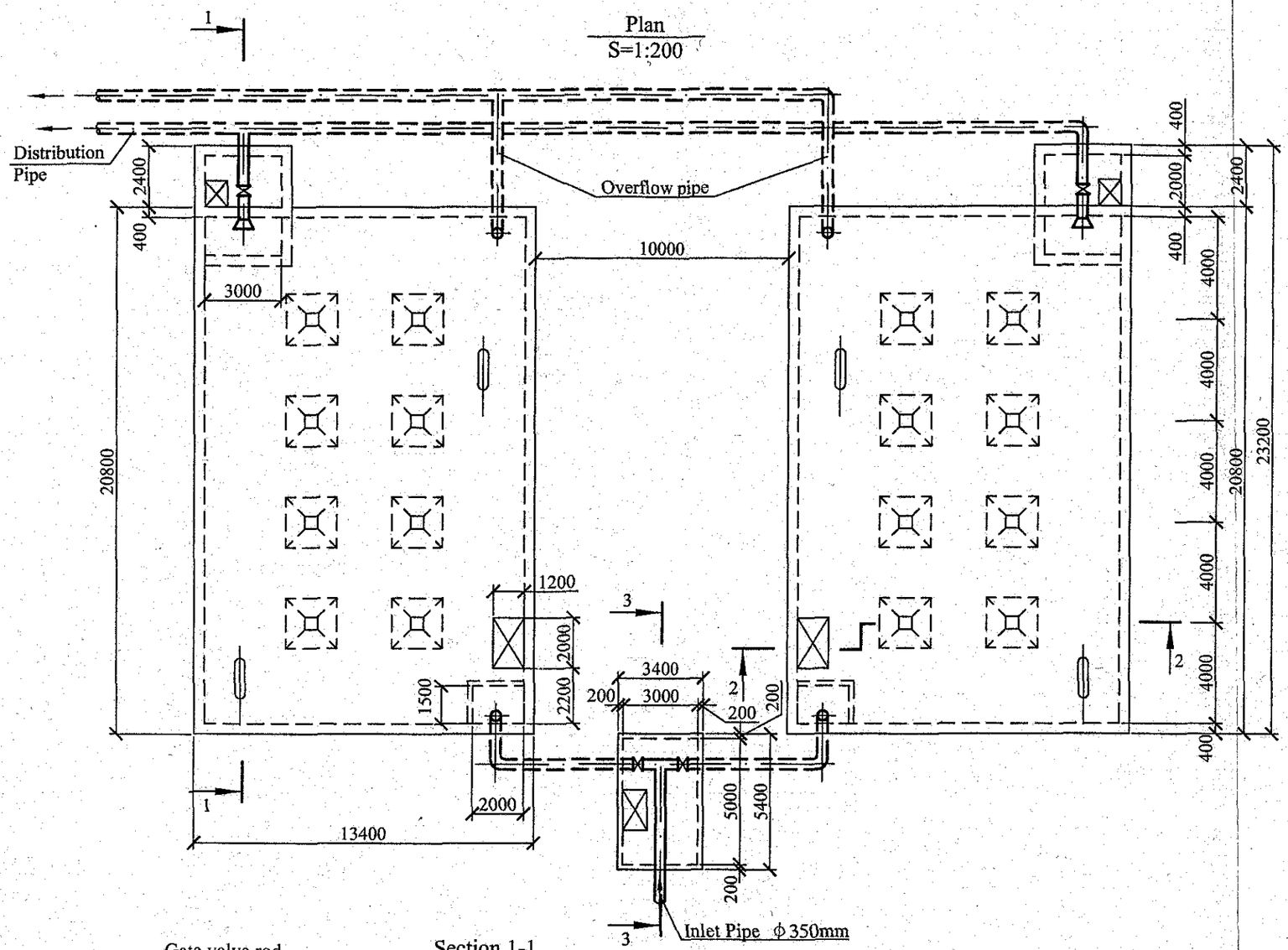
Section 1-1
S=1:200

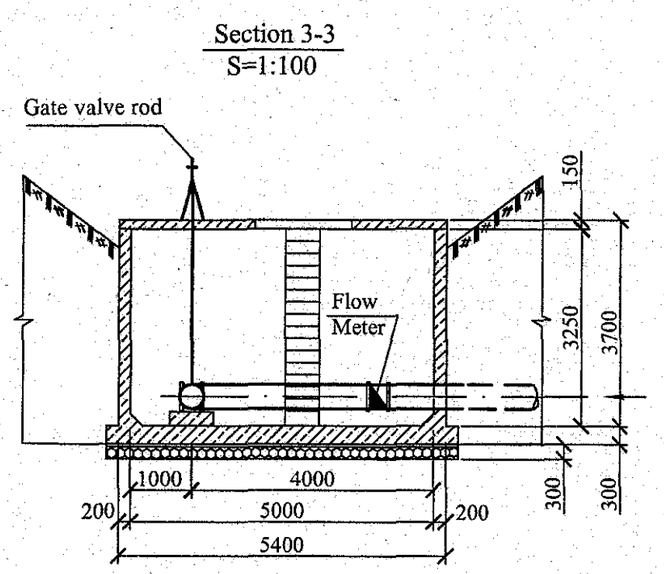
Drawing 16 Unfinished Reservoir in Balti (V = 2 x 10,000m^3) (General Layout)

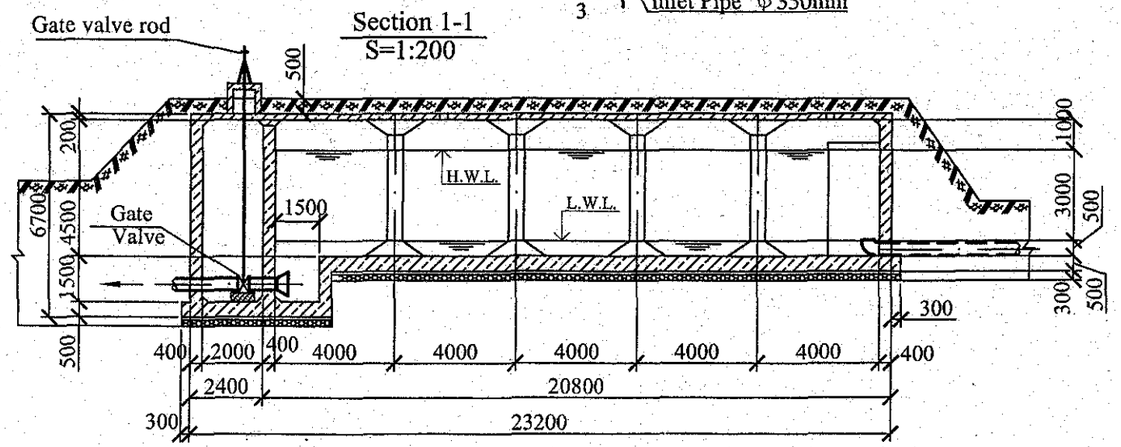
S 1 : 200 000

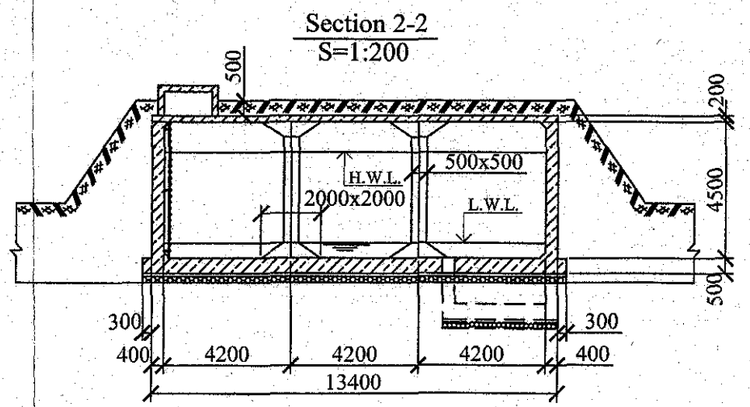


Drawing 18 Plan of Transmission Pipelines to Riscani and Falesti



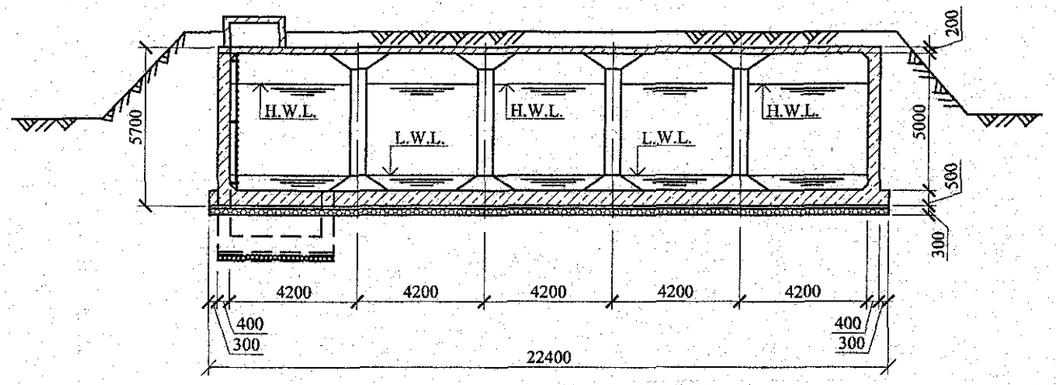






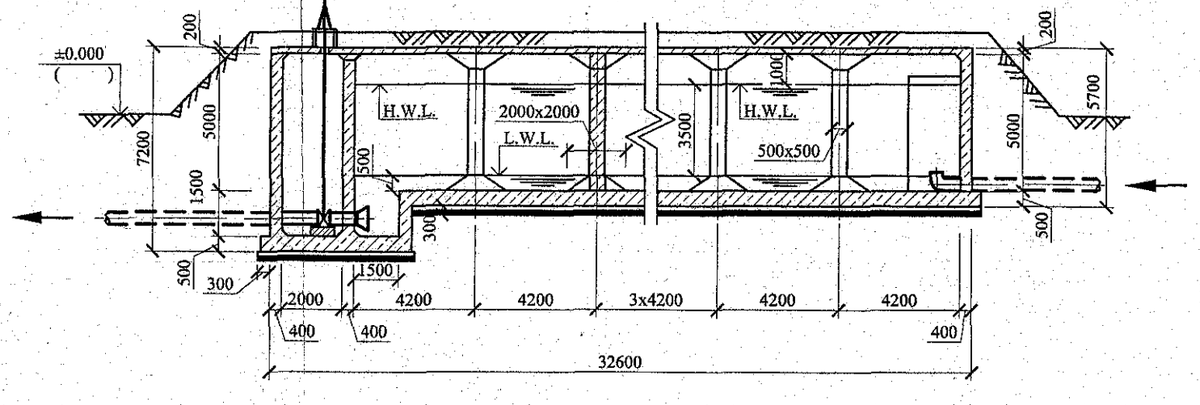
Drawing 37 Plan and Section of the Reservoir in Riscani

Section 2-2
S=1:200

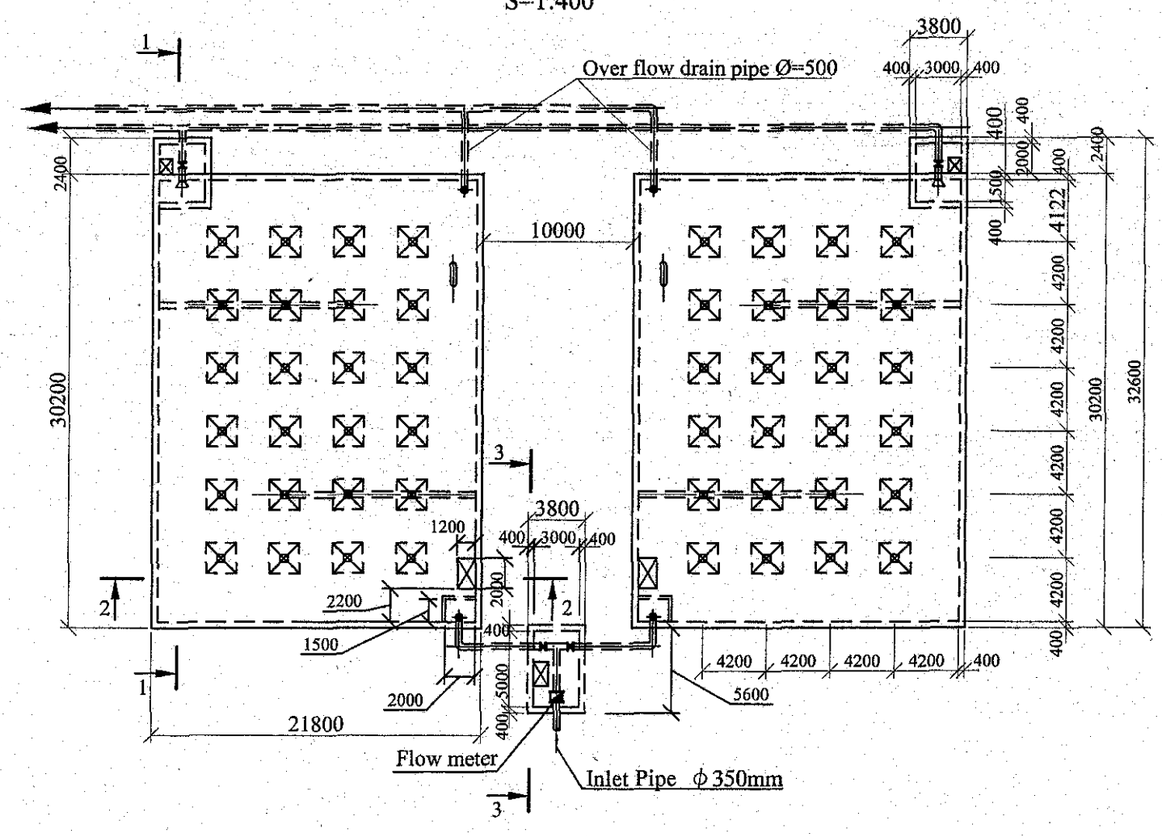


Gate valve rod

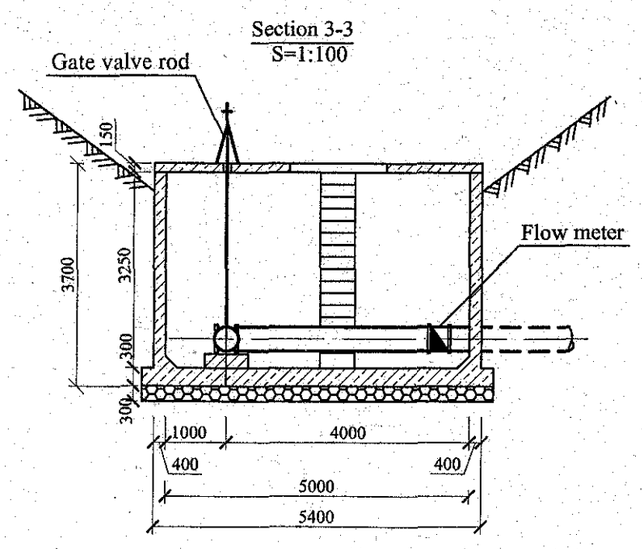
Section 1-1
S=1:200



Plan
S=1:400



Section 3-3
S=1:100



Drawing 38 Plan and Section of the Reservoir in Falesti

CHAPTER 9 INSTITUTIONAL AND FINANCIAL ARRANGEMENTS

9.1 Institutional Arrangements

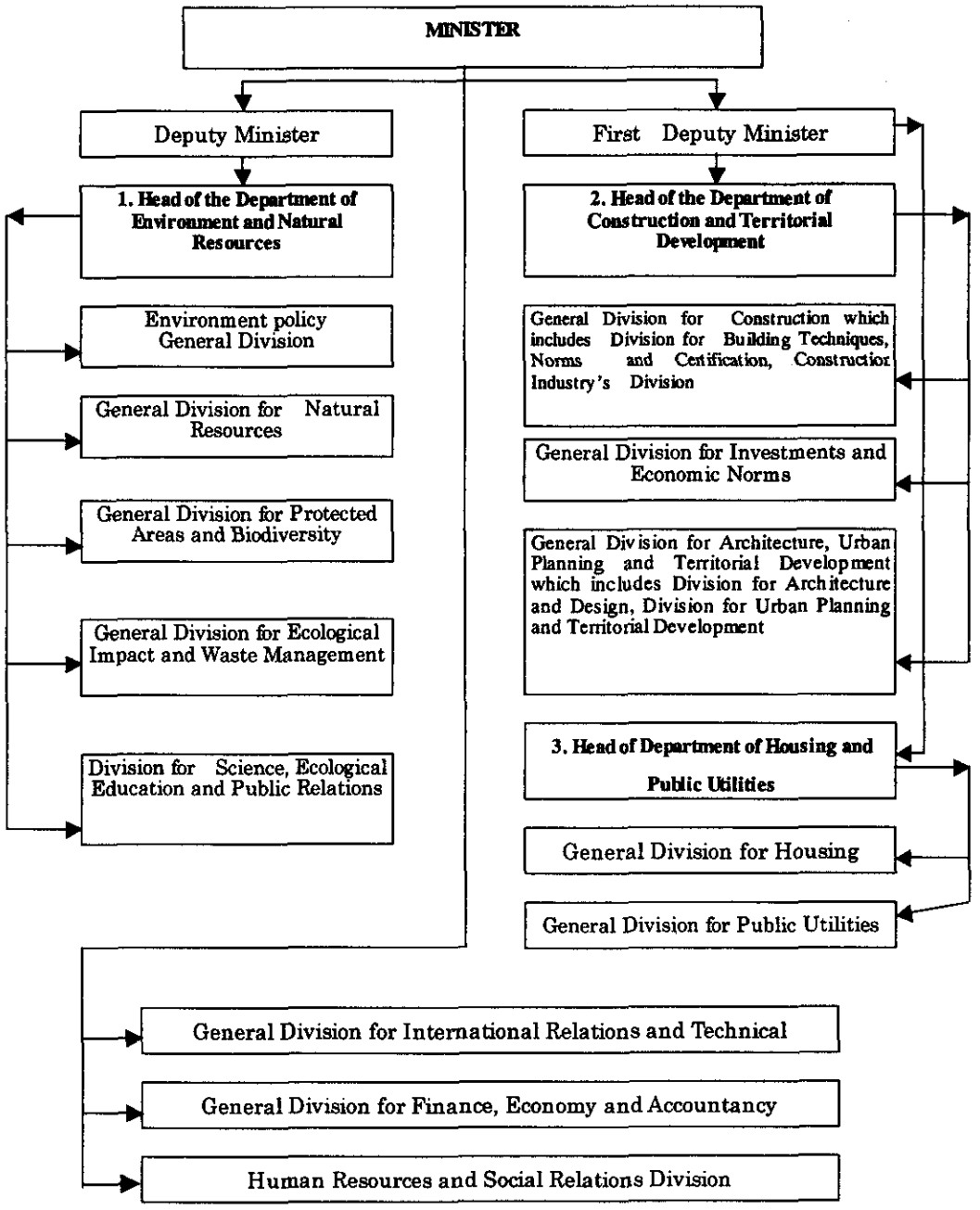
9.1.1 Institutional Structure Existing in the Water Supply Sector

The administration of the water supply (and sewerage) sector comes under the jurisdiction of the Ministry of Environment, Construction and Territorial Development (MECTD) in Modova. (There has been a change in the structure of the government since the time of the Master Plan Study in mid 2001.) The Department of Housing and Public Utilities of the MECTD assumes the sector administration at the national level including the preparation (in collaboration with the Ministry of Justice) of laws and ordinances related to water supply and sewerage, a research on the status and future needs of the sector, monitoring of the operation of water supplies in the nation, etc. (See Figure 9.1.1)

Due mainly to the limited clerical and technocratic resources of the MECTD, the government vests the authorization to license new and altered water supply utilities in the State Water Resources Management Concern "Apele Moldovei". Apele Moldovei also grants water right on surface water sources to, among other things, water supply utilities. In addition to licensing of water right, Apele Moldovei conducts such activities as (1) development of a long-term national water supply (and sewerage) development plan, (2) planning, design and construction of water supply (and sewerage) facilities, and (3) construction and operation of irrigation, flood control, land corrosion control facilities, etc.

Apele Moldovei is headed by a President, and there are two deputy presidents, under whom Deputy Chief Engineer, five section chiefs and a legal advisor are incumbent (See Figure 2.6.1). The First Deputy President cum Chief Engineer also supervises 11 DAPREs (District Associations for Production, Repair and Exploitation). The total staff size of Apele Modovei is 46. The Associations "Ameliorares", formerly being components of Apele Moldovei, have been privatized. The main function of Ameliorares is the maintenance of state-owned irrigation facilities.

In actual operation, Apele Moldovei sublets design and engineering activities to The Water Resources Management System Design Institute "ACVAPROIECT" (Acvaproiect). Acvaproiect is headed by a General Manager, who directs five departments, one technical council, and four task units (See Figure 2.6.2). Its total staff size is 262.



List of enterprises which are subordinated to the Ministry of Environment, Construction and Territorial Development :
6 state inspection and control institutes
9 research and design institutes
7 enterprises
2 training centers
7 service enterprises
21 Joint-stock companies (with shares belonging to the state)

Figure 9.1.1 Organization Structure of the Ministry of Environment, Construction and Territorial Development

Under contracts with Apele Moldovei, Acvaproiect carries out tasks of, among other things, (1) preparation of a national long-term development plan for the sector; (2) planning and design of major water supply and/or sewerage projects financed by the government; (3) preparation of bidding documents of such projects, and evaluation of bids; (4) construction supervision of such projects; and (5) start-up and initial operation of the completed facilities, and the transfer of the property to the incumbent municipality or judicial body as the owner. Since the long-term water supply development plan of Moldova, which was prepared in 1991, is obsolete, Acvaproiect under a contract with Apele Moldovei has been revising it.

The government has a plan to reorganize the administration of the water supply and sewerage sector in the near future transferring the Housing and Public Utilities Department of the MECTD to another ministry, or a newly established ministry.

9.1.2 Legislative Provisions in the Water Supply Sector

The legislative framework in Moldova is complex. There are two principal laws and three decrees and regulations related to the implementation and operation of water supply services: (1) Water Code (Enacted on 12 Dec. 1973, and finally revised on 10 Nov. 2001); (2) Portable Water Law (Enacted on 18 Apr. 1999); (3) Decree: Adoption of the water supply and sanitation program of the localities (23 Apr. 2002), (4) Decree: Mechanism of calculation tariffs on water supply and sewerage services (7 Dec. 2000), and (5) Decree: On Portable Water – Definition of Terms (10 Feb. 1999). The Water Code principally deals with rules of utilizing water sources not only for water supply but also other purposes. (9/10)

There are, probably among other things, two other regulations related to the measurement of water quantity served to consumers and the payment of water charges: (1) Regulation: Installation and operation of water and heat measurement systems in housing and public buildings (23 Jan. 1996); and (2) Decree: Provision of the use of communal water supply and sewerage systems – method of measurement of water quantity and payment (27 May 2002). There exists no straightforward law on the procedures of licensing of water supply utilities although there is a law on the licensing of the construction of engineering facilities in general. There is a government decision, which sets forth that the MECTD is the main body of central administration of communal services. Another government Decision requires that the MECTD shall embody the Department of Housing and Public Utilities with a subordinate divisions for Housing and public utilities respectively.

9.1.3 Sector Administration

Except for acquisition of water right on surface water sources from Apele Moldovei, there is no definite system of licensing water supplies in Moldova. Therefore, there is at present no straightforward administrative system of warranting the physical, safety and financial integrity of

water supplies when they start operation. Those, who intend to construct a water supply system, need to have a license from the MECTD to construct a water supply system as an engineering facility like other structures. During the operation of the water supply utility, water supply utilities are not obliged to report the physical and financial performance of his utility to the central government nor the county administration except for the report to be submitted to the owner of the utility, namely, the city mayor or shareholders.

9.1.4 Institutional Status of ACSB and Apa Canals Soroca and Balti

ACSB was formerly a state enterprise prior to its transfer, in accordance with the Resolution No. 530 (6 June 2000), to the counties of Soroca and Balti and the simultaneous formation of the joint-stock company "Apa Canal Soroca-Balti". The shares of its statutory capital have been in dispute between the Soroca county and the Balti county even though the above Resolution sets forth the shares to be 40% for the Soroca county and 60% for the Balti county. The former has been demanding 50%. As the decision-making body, ACSB does not have the board of directors since there is only a director. No stocks have been actually issued although the statutory of ACSB states the number of stocks which form the statutory capital. Actual decisions are at present made by the council of the Soroca county without representation from the Balti county.

ACSB makes single-year wholesale agreements separately with its customers, i.e., Apa Canal Soroca and Apa Canal Balti. The contract stipulates (1) water tariff, (2) the method of determining the quantity of water supplied, (3) the condition to discontinue the supply, (4) a penalty clause for non-payment of water bills, and (5) the duty of customer to indicate to ACSB the volume of water required for the next month at the end of each current month. The agreement does not set forth the obligation of the customer to receive a prescribed amount of water in each month or year.

Apa Canal Soroca and Apa Canal Balti are public utilities owned by Soroca City and Balti City respectively. The director of each utility reports to the respective city mayor. In Apa Canal Balti the Director directly supervises eight sections including (1) Customer Sevices Sec., (2) Planning Sec., (3) Accounting Sec., and (4) Personnel Sec.; and the Chief Engineer, under the director, oversees 12 sections including (1) Distribution Network Sec., (2) Sewer Network Sec., and (3) Pumping Stations Sec. (See Figure 2.6.3). Apa Canal Soroca has the similar organizational structure as Apa Canal Balti (See Figure 2.6.4). In the operation of both Apa Canals, revenue has been almost always short to cover the expenditures. The central issues are (1) insufficient water rates, (2) large amounts of accounts receivables due to residential, commercial, industrial and public customers, who cannot fully pay the water bills, and (3) water losses. However, the city mayors are rather reluctant to propose plans for raising the water rate to the respective city councils because of foreseeable strong resistance of customers.

9.2 Institutional Arrangements for the Project Implementation and Operation

9.2.1 Institutional Arrangements at the National Level

Given the above inadequacies in the sector administration, the government is planning to strengthen the Department of Housing and Public Utilities of the MECTD (or another ministry to be newly established) for its administrative functions related to the water supply sector in the near future. The areas of administration, for which the Department is responsible, shall be, among other things, the following:

1) Licensing of water utilities in the case they are newly established or altered in terms of water source, service area, method of water treatment, population served and the quantity of water to be served, etc. At the time of license application, the water supply utilities have to demonstrate the engineering integrity of their water supply facilities, the safety of tap water, and the financial viability of their operation. All or part of such authority can be vested in the respective counties.

2) General rule-making on such conditions on the water rate, cost allocation of the installation of services for residential, commercial, industrial and public customers, and the obligation for the water supply utilities to report on their operating performance to respective local authorities.

3) Establishment and enactment of technical standards for water supply facilities to warrant their physical integrity and the safety of drinking water.

4) Legislative provisions for water supply utilities to instate a general administrator and a qualified technical administrator.

5) Establishment of a rule for water supply utilities to test their tap water for its safety against drinking water standards of Moldova, which shall be provided by the Ministry of Health, and report the results to the respective local authorities.

6) Coordination on the financing for water supply projects with funds to be provided by the government, external sources or the private sector, etc.

Apele Moldovei may still be the sole national authority to allocate water right on surface water sources to, inter alia, those who run a water supply utility. Likewise, the State Agency of Underground Resources and Geology may be the sole authority to license the abstraction of groundwater for water supply.

9.2.2 Legislative Arrangements

The legislative framework in Moldova is markedly complex, so there is a need to simplify and streamline the legislative provisions. First of all, a water supply law must be newly enacted; or the Portable Water Law shall be revised and renamed Water Supply Law. The existing Water Code may be left unchanged. The principal objective of the new Water Supply Law is to safeguard the public when providing water supply in regard to (1) the qualification for the general manager to head up a water supply utility; (2) requirements for the licensing of the utility; (3) engineering prerequisites for the licensing in terms of the integrity and safety of facilities; (4) the assurance of water right; (5) financial viability of the water utility, (5) the safety of tap water, etc.

The new Water Supply Law shall set forth, among other things, the following:

1) Principal responsibilities of the central and local governments:

- The central and local governments are responsible to establish policies on systematic development of the water supply sector; and the operation of water supplies in an appropriate and efficient manner.
- The central government shall plan and undertake basic and comprehensive measures such as the development of water resources for the improvement of water supply; and give technical and financial assistance to local governments and water supply utilities.

2) Safety of Drinking Water

- The government shall obligate water supply utilities to fulfill the quality of water served by them in accordance with the water quality standards of Moldova.

3) Licensing

- Those who intend to run a water supply utility, or alter it in terms of size, water source, etc. shall have a license of the governor/head of the county where the facilities of the water supply are situated.
- Water supplies shall be operated by a city, town, village or a joint body thereof or a privately owned enterprise. Anybody other than a city, town or village shall have an agreement from such a community whenever he intends to run a water supply in such an area.
- The license application document shall bear such description of the water supply as follows:

  1) The service area; 2) Outline of facilities; 3) Planned date of the commencement of service; 4) Estimate of construction cost of the facilities and its proposed source of financing; 5) Population served and the base for quantity of water to be served; 6) Outline of projected revenue, expenditure and their balance; 7) Water rate; 8) Type of water source and the location

of water intake; 9) The result of source water quality analysis; 10) Location, size and structure of facilities; 11) Method of water treatment; 12) Planned commencement and completion dates of construction

4) Regulations for Service

- The water supply utility shall establish regulations for water service on such conditions as water rate and the cost allocation of the installation of services (house connections).
- The water supply utility shall report to the respective county governor whenever it has changed water rates related to its service.

5) Obligation to serve and Obligation to Pay

- The water supply utility shall not reject, with no justifiable grounds, a water service contract proposed by a user who resides in the service area.
- The water supply utility shall supply water at all times to those who are served by its system.
- The water supply utility can suspend its service to a user when he has not paid the water charges for an excessively prolonged period of time, or refused to accept the inspection of his water meter for no justifiable reason in accordance with the water service code, which shall be issued by the respective water supply utility.

6) Water Supply Technical Administrator

- The water supply utility should instate a water supply technical administrator to manage technical matter of water supply. He should carry out the following activities and supervise personnel who carry out the same: (1) The inspection of water supply facilities for their conformity to the standards as stipulated elsewhere; (2) Water quality testing; (3) Examination of water service products (fittings) for their conformity to the said standards; (4) Health check of personnel; and (5) Emergency suspension of water supply in accordance with the prerequisite procedures.

7) Water Quality Testing

- In accordance with the ordinance of the Ministry of Health, the water supply utility should carry out regular and ad hoc water quality testing.

8) Fire Hydrants

- The water supply utility should install fire hydrants for publicly performed fire fighting.
- Municipalities, in which fire hydrants have been installed, shall compensate the water supply utility for the cost of the facility and its use and maintenance.

9) Penalty

- Those who destroy water supply facilities, or impair the function thereof, which has resulted in hampering of water service, shall be condemned for five or less years' penal servitude or fined for (ten thousand lei) or less.
- Those who have operated without permission the water supply facilities and as a result hampered the water service shall be condemned for two or less years' penal servitude or fined for (five thousand lei) or less.

In addition to the above, there must be related laws such as follows:

1. Public Utilities Law
2. Local governments law
3. Local finance law
4. Local government officials law
5. Labor union law
6. Labor standards law
7. Labor safety and sanitation law
8. Building code law, etc.
9. Measurement law

As to the legislation on local financing, Moldova's Decree No. 519: "Adoption of the water supply and sanitation program of the localities" (23 April 2002) can be the base for a Local Finance Law.

9.2.3 Institutional Arrangements at the Local Level

(1) Licensing

The authority of licensing a water supply utility is vested in each county. The government shall help counties establish the procedure and prerequisites for licensing.

The application document for licensing shall bear the following items:

(1) Name and former affiliation of the administrator of the water supply utility
(2) Name and the certificate of the technical administrator
(3) Delineation of the service area
(4) Outline of facilities
(5) Planned date of the commencement of service
(6) Estimate of construction cost of the facilities and its proposed source of financing
(7) Population served and the base for quantity of water to be served.
(8) Outline of projected revenue, expenditure and their balance.
(9) Water rate, allocation of the cost of connection and other conditions of a service connection

The application shall be accompanied by an implementation plan for the proposed water supply scheme, which shall bear the following:

(1) Daily maximum water demand and daily average demand
(2) Type of water source and the location of water intake
(3) Yield of the source per day and the result of water quality analysis
(4) Location, size and structure of facilities
(5) Method of water treatment
(6) Maximum and minimum pressure in the distribution mains
(7) Planned commencement and completion dates of construction

(2) Organizational Structure of Water Supply Utilities

1) Water Supply Utilities in General

The recommended typical organization of a water supply utility shall have the following structure:

Top Management: Director (Water Supply Utility Administrator)
Deputy Director(s)
General Affairs Division
Accounting Division
Customer Division
Chief Engineer (Water Supply Technical Administrator)
Water Supply Division
Sewerage Division
Lawyer

Each division shall have subordinate sections to assume respective delineated functions.

2) Apa Canal Soroca-Balti (ACSB)

i) Organizational Structure

Apa Canal Soroca-Balti shall have basically the same organizational structure as that for other retail water supply utilities except for the Wholesale Division, of which staff size may be much smaller than the Cudtomer Disvision of retail water supply utilities since it has only a couple of customers. Furthermore, it has no sewerage division. The existing organizational structure of ACSB is markedly complex, so a simplified structure shall be employed by delineating the sections by major function. A proposed organizational structure of ACSB is illustrated in Figure 9.1.2.

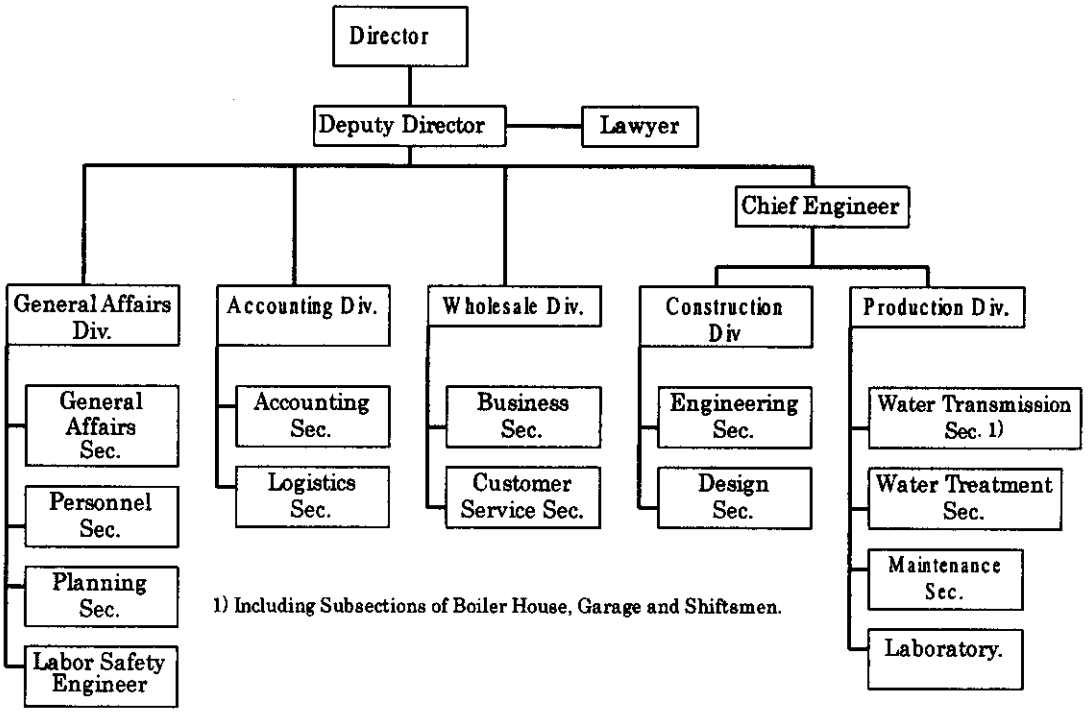


Figure 9.1.2 Proposed Organizational Structure of ACSB

ii) Functions of the Sections in ACSB

The respective sections of the ACSB shall assume the following operational functions:

a) General Affairs Division

- Preparation and implementation of job descriptions for the employees of ACSB (General Affairs Sec.)
- Preparation of budget plans, its implementation, monitoring and reporting (Planning Sec.)
- Preparation for the general meeting of stockholders, and its implementation (as the secretariat) (General Affairs Sec.)
- Personnel management (Personnel Sec.)
- Control of salary scales, wages and travel expenses (General Affairs Sec.)
- Purchase, storage and distribution of supplies (do)
- Issuance and record of official documents (do)
- Management of labor safety (Labor Safety Engineer)

b) Accounting Division

- Accounting of cash revenues, cash expenditures, accounts receivables and accounts payables (Accounting Sec.)
- Book-keeping of acquisition, re-evaluation, depreciation and disposal of tangible and intangible assets (do)
- Control of bank accounts (do)

- Cashier (do)
- Contract-making (Logistics Sec.)
- Logistics (control of acquisition, storage, deployment and book-keeping) of materials and equipment (do)

c) Wholesale Division

- Planning of the water rate (Business Sec.)
- Volumetric measurement of water sales, billing and collection (Business Sec.)
- Coordination of supply conditions with customers (Customer Service Sec.)
- Maintenance of customer (wholesale) meters (do)

d) Construction Division

- Planning and design of new and rehabilitation works (Design Sec.)
- Construction of such facilities including supervision of construction work in case the work is sublet (Engineering Sec.)

e) Production Division

- Operation of pumping stations (Water Transmission Sec.)
- Operation of water treatment facilities (Water Treatment Sec.)
- Maintenance of mechanical, electrical, architectural and civil facilities and transmission mains (Maintenance Sec.)
- Testing of raw and treated water (Laboratory)

iii) Business Policy and Customer Relations

The ACSB's position to its customers, i.e., Apa Canals Balti and Apa Canals Soroca is weak although it has a wholesale contract with both. It cannot exert decisive legislative power even if they win a court decision that its customers should immediately pay the large amounts of unpaid wholesale bills. Therefore, the ACSB should make strong efforts to have its customers' decisive understanding that wholesale water rate should be based on the actual cost of ACSB's operation and that the full payment of wholesale water bills is vital not only for the ACSB but also its customers for securing a safe and affluent drinking water source.

3) Apa Canal Balti and Apa Canal Soroca

An organizational structure similar to that for the ACSB is recommended for both Apa Canal Balti and Apa Canal Soroca. However, the Wholesale Division shall be substituted by the Customer Division. Both have divisions for not only water supply but also sewerage services. The staff size of each division for Apa Canal Soroca shall considerably smaller than Apa Canal Balti due to smaller business, namely, the number of customers. The existing organizational structure of both Apa Canals is complex, so a simplified structure shall be employed by regrouping the sections by major function. A proposed organizational structure of Apa Canal Balti is illustrated in Figure 9.1.3.

The divisions of Apa Canal Balti and Apa Canal Soroca, which are not included in the ACSB, and the functions to be performed by the divisions:

f) Water Supply Division:

- Planning and design of new and rehabilitation structures and facilities (Engineering Sec.)
- Construction supervision of such projects (Construction Sec.)
- Inspection, repair, maintenance of facilities and equipment (Maintenance Sec.)
- Intake, transmission and treatment of water (Water Production Sec.)
- Distribution of treated water including the operation of service pumps (Water Distribution Sec.)
- Sampling and testing of raw, treated and tap water (Laboratory)
- Other activities (any of above sections or additional sections)

g) Sewerage Division:

- Planning and design of new and rehabilitation of sewers and wastewater treatment facilities (Construction Sec.)
- Construction supervision of such projects (Construction Sec.)
- Cleaning and maintenance of sewers (Sewer Maintenance Sec.)
- Operation and maintenance of pumping stations (Pumping Station Sec.)
- Wastewater treatment (Wastewater Treatment Sec.)
- Inspection, repair and maintenance of mechanical and electrical equipment (Mechanical and Electrical Sec.)
- Other activities (any of above sections or additional sections)

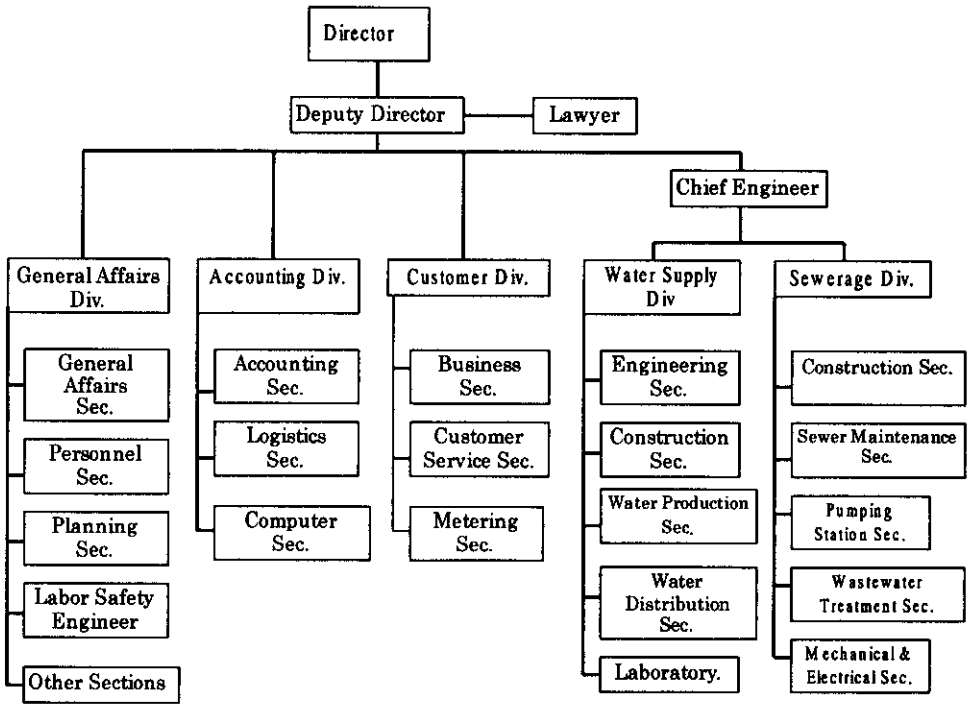


Figure 9.1.3 Proposed Organizational Structure of Apa Canal Balti

9.2.4 Development of Facility Maintenance System

(1) Inspection and repair

In general the water supply utility should establish a proper plan for facility replacement and written rules of preventive maintenance of facilities and equipment, which are currently non-existent in ACSB. To this end, there will be a need to study the physical and operational integrity of existing facilities and equipment. In the next step, (1) Replacement plans shall be drawn for each facility; and (2) Inspection and maintenance schedules shall be provided for each unit of equipment.

Since (1) the integrity of the ACSB's facilities and equipment are studied under the present project; and (2) deteriorated part of equipment in facilities are expected to be replaced under an ensuing project, there will be no urgent need for ACSB to carry out a study on the integrity of the facilities and equipment immediately after the completion of such an ensuing project. It is, however, important for ACSB, even after the completion of the ensuing project, to establish inspection and maintenance schedules for each unit of mechanical and electrical equipment.

The inspection and upkeep work shall be categorized into (1) daily inspection, (2) monthly inspection and upkeep, (3) annual inspection and repair, and (4) ad hoc inspection and repair. Although the method of inspection shall be based on the manuals provided by the respective manufacturers of the equipment, basic inspection items shall in general be as follows:

(1) Daily inspection: appearance, vibration, smell, noise, temperature (especially, of moving part), oil pressure, water pressure, discoloration, deformation, damage, wear-out etc.

(2) Monthly inspection and upkeep: (i) quantity, quality and leakage of lubrication oil and grease, (ii) condition of plugs, (iii) leakage from water-sealing, (iv) alignment of pump and motor axis, (v) slack, vibration, exfoliation of paint, corrosion etc. (vi) minor adjustments of mechanical components and replenishment of lubrication liquid etc.

(3) Annual inspection and repair: (i) renewal of lubrication liquid, (ii) cleaning of equipment, (iii) retightening of bolts and nuts, (iv) renewal of gaskets and grand packing, (v) adjustment of centering (of rotating devices) etc.

(4) Ad hoc inspection and repair: Every unit of equipment shall be closely inspected every 5 to 10 years, and also whenever its performance has become abnormal.

(2) Replacement and Renewal Plan

As a going concern, ACSB (and Apa Canals of Soroca and Balti) should prepare for future replacement of equipment and related apparatus since mechanical and electrical equipment has much shorter an economic life than civil works structures. For example, the average economic life of pumps may be 20 years whereas the life of concrete structures of pump houses and sedimentation

basins etc. may be 35 to 40 years. However, regular and ad hoc maintenance work for concrete structures such as repainting, resurfacing, repair of cracks and leaks, and so forth is required. Therefore, the replacement and renewal plan may be described for the following categories:

(1) Mechanical equipment

- Pumps (including motors), flush mixers, chemical dosing devices, blowers, sludge rakes, valves, chlorinators, sampling devices etc.

(2) Electrical equipment

- Transformers, breakers, power cables, switchgears, cubicles, lighting fixtures etc.

(3) Instrumentation and communication equipment

- Sensors, probes, flow meters, pressure gauges, level meters, encoding and decoding devices, communication cables, control panels, computers, telephones, radios etc.

Since the above items of equipment respectively have varying economic lives of 5 to 20 years, Apa Canals need to prepare a long list of replacement and renewal schedules for such items. It is then highly important to provide not only the system of inspection and repair work but also financial resources to carry out the work. Furthermore, a system of logistics for purchase, storage and deployment of materials and spare parts for the work should of course be established.

9.2.5 Stepwise Restructuring of Water Supply Utilities Toward Privatization in Moldova

In Moldova, like in other countries under the market economy, various types and magnitude of privatization in the corporate management system can be implemented depending on the institutional, financial and physical conditions of the water supply utility and the society. The following are representative types and magnitudes of privatization, which may be considered by water supply utilities in Moldova.

(1) Out-sourcing Contracts

Part of operations of the water supply utility, e.g., meter reading, tariff collection, the operation and maintenance of water treatment plants and water distribution networks and so forth are sublet to specialized private firms.

(2) O&M Management Contracts

The operation and maintenance (O&M) of the entire system of the water supply utility are contracted out. The contracted firm receives remuneration, i.e., the fee depending on its performance (activities).

(3) Lease Contract

The municipality, namely the owner of the water supply, leases out their water supply facilities to a private firm. The firm charges and collects the water tariff from its customers, part of which

revenues it appropriates to the payment of the lease. This type of privatization is suitable in case the size of initial investment is relatively small.

(4) Concession Contract

This is the most advanced form of trust, under which the trusted private firm directly undertakes construction, maintenance and replacement of the facilities. The firm invests money for the construction, and recovers the capital cost by means of water tariff. The ownership of the utility rests with the municipality.

(5) Complete Privatization

The entire body of the water utility is sold to the private firm together with all the corporate rights for the operation. The municipality, however, maintains the role of controlling the level of water rate and the quality of service.

The selection among above alternatives will be affected by various conditions such as the age of the facilities, the financial position of the utility, the availability of competent trustees, and the support of the consumers to the privatization. As to the present project, ACSB is not privately owned even though it has become a joint-stock company, and neither classified as a lease contract nor a concession contract. The only prospective way-out is the government policy including its intervention with the enactment of a law or ordinance to guarantee the self-reliance of the wholesale water utility, namely ACSB, through the prohibition of the use of hazardous (unsafe) groundwater and its endorsement for profitable water rates. Otherwise, no other form of corporation can be possible than the present status with the actual ownership by both Soroca and Balti counties and their subsidization for making up the deficits in operation.

In effect, on the other hand, the present water charge to be collected from the customers of ACB and ACS is considered to be close to the affordable limits of the customers while the financial position of the water utilities is still weak or unprofitable. It does not appear that the position of the sector has reached the level at which any private firms can own the utilities and make profits from their operation. All the same, it is hopefully possible that, if privatized, a water supply utility may avoid loose, inefficient operation, which has been ubiquitous under the publicly owned corporate form, and can elevate the level of service as a result of its efficient operation. Thus the consumers can ipso facto benefit even if the water rate would be somewhat higher. To this end, the government should undertake such measures as stated above to warrant the self-reliance of the water utilities; and the consumers, on the other hand, shall be enlightened to show their willingness to pay for the cost of valuable services they receive.

9.3 Financial Management

9.3.1 Tariff Policy of the Water Supply Systems

The most important critical issue in this feasible study is the financial restructuring of ACSB.

During the past planned economy, the water supply systems of the country was constructed by the budget allocated from the central government of the Soviet Union and the operation cost was mainly borne by commercial users and public institutions. The residents did not need to worry about the water supply cost.

The situation has been changed completely after the independence of 1991. The financial transfer from Moscow has been stopped. The planned constructions of factories have been canceled. The many existing factories faced the decrease of demand or financial loss due to the lack of competitiveness of the products in the market and therefore reduced the operating level or closed, and the tariff revenue from the enterprises was sharply decreased.

In order to survive in market economy, the most of enterprises switched their water sources from the public water supply to domestic wells. Many budget organizations lacked their water budget due to the economic turmoil and the decrease of tax revenue. Large amounts of overdue were from the hot water and heating supply organizations.

Thus, the system that the most water supply cost was borne by enterprises and budget organizations and the residents enjoyed almost free water became impossible. Further, the price of the electricity that is now imported from Ukraine and Russia has been increased several times from 1998 to 2002. The sixty-nine percent of water supply cost in ACSB is the electricity cost. The facility of ACSB is old and excessively large against current level of water demand. The operation of ACSB is inefficient.

More than 90 percent of the water sales of ACSB are toward ACB and the remaining is for ACS. If the financial performance of ACB becomes negative, the operation of ACSB reaches deadlock. This is the fundamental structure of the current ACSB issue.

In spite of the frequent increase of power cost after 1998, it was politically infeasible to increase water tariff for population and it resulted in the power cutoff to ACSB.

In order to solve the situation, the following two conditions must be established.

(1) The water supply business should be sustained with water tariff. The external financial assistance at continuing basis shall not be expected.
(2) The cross subsidy cannot be allowed. All water users must pay their water costs.

In case of larger cities where large enterprises exist in substantial numbers, moderate level of cross subsidy may exist, say, in one to two ratios between population and enterprise. But, in this study area of northern region, such a number of enterprises do not exist.

From such point of view, new ACB's uniform tariff system that was introduced at 1st July 2002 was truly epoch making. It took eleven years after independence and the introduction of market economy for new uniform tariff to be realized in Balti, Moldova. Only this new uniform tariff will bring financial stability to water supply systems.

Currently, elder population, especially pension recipients, is resisting this new uniform tariff. But as new tariff is the absolute key factor for financial stability of water supply systems, the retreat should not be allowed. The effect of new tariff will appear in August monthly financial report. The resumption of power transmission to ACSB is highly correlated with the financial improvement of ACB.

The water supply from the facilities proposed in the feasibility study will start at the year of 2006 to Balti and Soroca. Within four years from now to 2006, the financial sustainability that all water supply cost must be recovered with tariff revenue should be achieved. This is the task of the Phase One of the Master Plan.

The success of uniform tariff system at Balti will influence on the neighboring small cities for adoption. Within five or six years, new uniform tariff systems will be adopted in many Apa Canals and the financial troubles of the water supply systems will be improved substantially.

In the current feasibility study, the water supply to Falesti and Riscani will start in the year of 2007. Within five years until 2007, the Apa Canals of these two cities will succeed to adopt new tariff principle i.e. (1) the water supply costs shall be covered by tariff revenue and (2) all water users must pay the respective costs.

Regarding macroeconomic aspect, real per capita GDP growth of five percent is expected from 2003 to foreseeable future. It is not impossible to expect financial improvement of the Apa Canals in the study area within five to six years.

By the reduction of the tariff for enterprises, the water demand from enterprises will be increased because water quality from ACSB is far better than the water quality from the local wells. Then, the

sales revenue of Apa Canals will increase and the operating cost will decrease. The rationalization will be accelerated by the improvement of financial position. Desperate situation will discourage the effort for improvement.

The new uniform tariff in Balti is 5.66 lei/m^3 for water supply, and 6.16 lei/m^3 including sewerage service. Monthly water and sewerage bill will be about 48 lei per family assuming the water consumption of 8 m^3 per family per month.

This new tariff is far higher than internationally accepted water tariff level of five percent of household income but the municipal council accepted this uniform tariff after the deliberation. This new tariff is the prerequisite for the water purchase from ACSB and the water quality improvement. Therefore the new tariff must be maintained with resolved effort.

The collection rate from population is expected to decrease but overall total revenue is expected to increase substantially. Some pension recipients and low income population will not be able to pay the water bill but multiple water tariff corresponding to income levels should not be introduced. Every family's effort to new tariff must be the saving of water consumption if necessary. Welfare policy is the task of the administrative government and it should not be introduced into tariff structure. In order to maintain the full cost recovery, any cross-subsidy should be rejected.

It will take at least two years for the new uniform tariff in Balti to be rooted. During these two years, many resistance and objection to uniform tariff will be seen repeatedly but the retreat should not be allowed absolutely. After the revenue inflow increases, the rationalization of the operation and the introduction of management accounting etc. will be accelerated. The resumption of power supply and the stabilization of power supply will make operational issues improved.

9.3.2 Financial Management of ACSB

ACSB sold the water from 1st August 2001 to 1st June 2002 to ACB and ACS. The operational performance of ACSB of the period is shown on Table 9.3.1 and Figure 9.3.1. ACSB sold more than 30,000m^3/day to ACB and 300m^3/day to ACS. That is, 99 percent of water was sold to ACB.

ACB bought 17.6 million lei of water during the period and paid 7.6 million lei to ACSB and has the unpaid liability of 10 million lei. In addition to this 10 million, ACB kept 4 million outstanding liabilities that were separated by the government decision.

ACS bought 314,000 lei of water and paid 268,000 lei with 47,000 lei unpaid. In addition, ACS has 2.7 million lei outstanding liability separated by the above government decision. Thus, the major debtor of ACSB is ACB.

The financial relationship between ACSB and the power supply company is shown on Table 9.3.2 and Figure 9.3.2. The cumulative power cost from July 2001 to May 2002 was 11 million lei. ACSB paid only 4 million lei and kept 7 million unpaid. On 1st June, the power supply has been cut off again. In addition to the above 7 million, ACSB has the outstanding liability of 10 million lei accrued before August 2001. This is separated from the current liability but ACSB promised to pay on installment.

As for the prospect on power supply, at least following several conditions must be satisfied. The involvement of the central government, especially the Ministry of Finance, is crucial. MECTD does not have the specific plan or power to solve the power supply issue.

(1) The substantial portion of the current liability has to be paid.
(2) The result of new uniform tariff in Balti shows positive prospect.
(3) The assurance of future payment
(4) The repayment plan of the outstanding liability.

As the 99 percent of water is sold to ACB, the positive and persuasive result in ACB's financial position is critical to the power supply to ACSB.

The major change during past one year is that ACB has become able to understand that the key factor on the power supply to ACSB is the tariff improvement at ACB. Until last year, ACB kept the position that the financial trouble of ACSB was not directly connected to ACB. And the purchase policy on the water from ACSB was not clear in last year.

The current business plan is shown on Table 9.3.3, but due to power cut the plan has been suspended. Average output was to be 40,000 m^3/day and the annual profit was to be 500,000 lei.

The Balance Sheet of ACSB is shown on Table 9.3.4 and Table 9.3.6. Both trade receivables and trade liabilities have increased due to the nonpayment by ACB. As ACSB operated during ten months, the income statements (Table 9.3.8) of both the year of 2001 and the first quarter of 2002 showed substantial improvement from the one for the year of 2000. As the accounting system adopts accrual method, huge trade receivables improve income statement. But without cash inflow, these numbers has no substantial meanings. As for the cash flow aspect, owing to ten months operation, 100,000 lei borrowing has been paid back (Table 9.3.10).

The cost structure of ACSB is shown on Table 9.3.11. This is not the operating result but the estimate at the beginning of the year but with long time operation experience, the estimate seems to be reliable. The power bill costs 70 percent of the operating cost of ACSB (Figure 9.3.3). The

depreciation and repair costs come next and personnel cost is very minor. In comparison to the cost structure of Tokyo Metropolis and Nagano City in Japan (Figures 9.3.4 and 9.3.5), where the power cost is only 3 - 5 % of the operating cost, the power cost of ACSB is abnormally high.

As mentioned above, the income statement with substantial trade receivables does not make sense. The cash flow management is the key issue in the financial management of ACSB. The implementation of the uniform tariff in Balti and the smooth payment for the power bill is critical.

As for the depreciation, while it is necessary to secure the resources for the future replacement, it will take time to recover huge trade receivables and some portion of them has to be written-off eventually and sufficient depreciation will be difficult for a while. ACSB has redundant capacity and the book value of the fixed assets is not reliable for the basis of the depreciation.

9.3.3 Financial Management of ACB

ACB has adopted and implemented the new uniform tariff system on 1st July 2002. It will take several months for the result of the new tariff to be shown up. ACB has own wells but the water quality of wells is not satisfactory. ACB has the policy to purchase the water from ACSB. As long as the water from ACSB is available, the wells of ACB are the reserve. The water loss from ACSB is very high, at almost 50 % level. The cause of this water loss is not solved yet.

Under the previous tariff systems, ACB was unable to pay the bill to ACSB. ACB accumulated the liabilities as shown in Table 9.3.12. It increased from January 2002 to May 2002 and caused the power cutoff on 1st June 2002. The outstanding receivables of ACB are also shown on Table 9.3.12. Budget organizations and enterprises show bad performance. At the water volume basis, these customers purchased 13% and 2% respectively. ACB cannot survive with the revenue from these organizations. ACB adopted the uniform tariff system. Before the uniform tariff of 5.56 lei was introduced, the water tariff for population was 2.0 and the water tariff for non-population was 12.60 lei. The introduction of the uniform tariff is the truly epoch making. The diffusion of the uniform tariff system to neighboring cities in near future is desirable.

This new uniform tariff will increase the demand from the enterprises and eventually will bring about the cost reduction in ACSB. The improvement of water quality with the water from ACSB will contribute the production of the food industries in Balti.

Balance Sheet, Income Statement and Fund Flow Statement of ACB are shown from Table 9.3.4, Table 9.3.6, Table 9.3.8 and Table 9.3.10. Although ACB is independent organization from ACSB, the financial operation of ACSB is completely dependent on the payment from ACB.

With this new uniform tariff, ACB will be able to pay the current water bill after resumption of the operation of ACSB. But the new tariff is not sufficient to repay the accumulated liabilities to ACSB. Considering the current income level of the resident, the new tariff seems to be the upper limit of affordability. With new tariff, the resumption of the operation and the sustainability of the operation of ACSB is the urgent target of the financial management of ACB.

9.3.4 Financial Management of Other Retail Apa Canals

(1) Soroca

From the financial point of view, ACS enjoys the best situation among four retail Apa Canals in the study area. ACS has own wells with good water quality. The water cost from wells is cheaper than ACSB. ACS is reluctant to buy the water from ACSB. During past one year ACS purchased only 300 m^3/day for the residents at hill area where the water from ACSB is required. Currently, the water supply to the hill area is stopped due to the suspension of the power supply to ACSB.

ACS revised the water tariff on 1st August 2001. For population, the water bill and sewerage bill altogether became 5.0 lei and for the budget organization 8.0 lei and for enterprises 10.2 lei respectively. The demand composition of population, budget organizations and enterprises are 94%, 5% and 1% respectively. Although the cross subsidy still exists, ACS showed financial profit on the first quarter of 2002. The Balance Sheet, The Income Statement and the Fund Flow Statement are shown on Table 9.3.5, Table 9.3.7, Table 9.3.9 and Table 9.3.10.

The County of Soroca has 100 percent ownership over ACSB and the transfer of half of the ownership from the County of Soroca to the City of Balti is not yet performed. But ACS thinks the ACSB issue is not their problem but outside issue. Therefore, when we consider retail Apa Canals, the weight of ACB and ACS should not be equal. The most consideration should be focused toward ACB.

(2) Falesti and Riscani

The water supply and financial situations are very serious in both Falesti and Riscani. The financial statements of these two Apa Canals are shown on Table 9.3.5, Table 9.3.7, Table 9.3.9 and Table 9.3.10.

At Falesti, the City rejected the proposed tariff increase by ACF. Therefore, the prospect of the improvement of the financial position is unclear. Because the wells of Falesti have the water quality problems, the introduction of the water from ACSB is desirable but the construction of water pipe from Balti to Falesti is required for the water from ACSB. The pipe construction cost is not affordable for ACF. Therefore, the water supply for Falesti should be considered in not single Falesti scope but in whole feasibility framework.

ACR realized the tariff increase on 1st April 2002. Water tariff for population increased from 2.30 to 3.40 lei. The sewerage tariff for population increased from 2.60 to 3.60 lei. The water demand by enterprises is almost negligible because enterprises have their own wells. The financial position of ACR has been improved slightly from the last year. The delay of the wage payment decreased from 6 months in 2001 to 1.5 months in 2002. As the average income of the population is very low, they do not prefer high tariff and high service. Rather they prefer low service and low tariff.

The water quality of Riscani area is also bad. But in order to receive the water from ACSB, the construction of long transmission pipeline is required. Current two days water supply comes from power cost constraint. The residents prefer two days water supply to the improvement of the service. Thus the local residents are not able to pay the construction cost for the pipeline. But in the long run, the economy of Moldova will grow gradually and the economic growth in Chisinau will spread to the local regions eventually.

In order to utilize the water of ACSB, the water supply to Balti should receive the first priority and the next comes Soroca. The extension to Falesti and Riscani will be feasible after the stable water supply to Balti and Soroca has been well established. Also, these extensions to two towns have to be considered within the whole ACSB scheme. Individual cost calculation will not support the extensions. For the residents in Falesti and Riscani, the water quality and the water cost are the tradeoff relationship but with economic growth and rationalization of the operation will make the water from ACSB feasible in near future.

9.3.5 Role of the Central Government

Formerly, the central government controlled 53 Apa Canals as the state enterprises. But now they have been transferred to the local governments, counties or municipalities. Some of them are further transformed into Joint Stock Companies. Now the department in charge of water supply and other utility services of the central government (MECTD) has only five staff members. But they are seeking new role as the central government. For example, they have established the committee to coordinate the tariff issues.

As written in the Master Plan, the role of the central government in this situation is as follows.

(1) To arrange the water budget to the budget organizations.
(2) To improve the tariff systems to recover the water supply costs.
(3) To coordinate multi-county project such as ACSB project.

During past one year, the coordination between ACSB and ACB has been improved. As for the tariff systems, the local governments and individual Apa Canals seem to know the situation better than the central government. Therefore, the major task of the central government will be (1), i.e., the water budget issues and the coordination concerning the cumulative debts of Apa Canals that should be separated from the current liabilities. As for the tariff systems, the central government must promote uniform tariff system too. Higher tariff on the enterprises will decrease the demand from enterprises and will suppress the local economies.

9.3.6 Arrangements for the Financial Issues

As for the financial rehabilitation, three phases were proposed in the Master Plan.

(1) To realize the tariff systems to recover the water supply cost (2003 – 2006).
(2) To realize the financial surplus (2007 – 2010).
(3) To repay the cumulative debt (2011 – 2015).

In this feasibility study, the Phase zero (2003 - 2004) should be added. The tasks of the Phase zero are: 1) to resume the operation of ACSB, and 2) to keep the stable operation of ACSB.

There are several preconditions for the power supply to ACSB. The key factor is the result of the introduction of the uniform tariff system in Balti. The remarkable revenue increase to support the sustainable payment for power bill of ACSB has to be realized. As ACB receives 99 % of the water from ACSB, the revenue increase in ACB is critical. This is the task for the year of 2003 and 2004.

The Phase One is from 2004 (later half) to 2005 (in case of Falesti and Riscani, until 2006). The task of the Phase One is to recover the water supply cost with water tariff. ACS has shown the profit in the first quarter of 2002. Both ACF and ACR have to realize the financial equilibrium until 2006. But during the Phase One, the repayment of the cumulative debt is very difficult. The central government has to try the cumulative liabilities to be transformed to long-term debts payable in installment.

The water from the new system that is planned in this feasibility study will come to Balti and Soroca in 2006 (in case of Falesti and Riscani, in 2007). The financial analysis in the feasibility study (to be presented in the draft final report) treats the water revenue of new facility from the year of 2006 (in Falesti and Riscani from 2007).

If the finance of Apa Canals achieves equilibrium in the Phase One, then the financial management in Phase two will be favorable. While the water cost from ACSB is higher than the water cost from the existing wells, the demand by enterprises will increase due to the better water quality and uniform

tariff system and the water supply cost of ACSB will decrease eventually. The stable operation of ACSB will facilitate the rationalization of the ACSB management. The real economic growth is expected at annual rate of 5 percent in foreseeable future and the tariff increase in proportion to the economic growth will be possible.

In the Phase Two, not only the financial equilibrium but also the financial surplus must be achieved for the improvement of the financial position. The financial surplus will be the resources for the repayment of the cumulative debts, which will be completed by 2015. The involvement of the central government is necessary for the conversion of the short-term debts to long-term debts or long-term bonds secured by the government.

Table 9.3.1 Water Sales of ACSB from August 2001 to May 2002

Month	ACB						ACS					
	Sold	Sold	Billed	Rate	Paid	Balance	Sold	Sold	Billed	Rate	Paid	Balance
	m3 / m	m3 / d	lei	lei / m3	lei	lei	m3 / m	m3 / d	lei	lei / m3	lei	lei
Aug-01	1,284,740	41,443	2,347,696	1.83	230,710	2,116,986	43,172	1,393	74,083	1.72	59,999	14,084
Sep-01	1,201,042	40,035	2,061,625	1.72	645,394	1,416,231	35,509	1,184	60,933	1.72	19,438	41,495
Oct-01	1,158,070	37,357	1,987,248	1.72	1,247,966	739,282	27,564	889	47,300	1.72	41,598	5,702
Nov-01	1,101,704	36,723	1,890,524	1.72	552,173	1,338,351	11,568	386	19,850	1.72	28,596	(8,746)
Dec-01	979,074	31,583	1,680,090	1.72	2,028,799	(348,709)	12,143	392	20,837	1.72	20,021	816
Jan-02	1,147,832	37,027	1,969,680	1.72	316,359	1,653,321	10,853	350	18,623	1.72	867	17,756
Feb-02	957,962	34,213	1,643,863	1.72	1,042,361	601,502	9,960	356	17,091	1.72	573	16,518
Mar-02	964,230	31,104	1,654,619	1.72	530,313	1,124,306	10,300	332	17,695	1.72	9,721	7,974
Apr-02	873,076	29,103	1,498,198	1.72	640,878	857,320	11,674	389	20,032	1.72	0	20,032
May-02	537,700	17,345	922,693	1.72	425,439	497,254	10,482	338	17,987	1.72	86,066	(68,079)
Total			17,656,236		7,660,392	9,995,844			314,431		266,879	47,552

Note: Receivables on 1 August 2001 (Lei)

Balti	4,086,546
Soroca	2,732,807

Table 9.3.2 Electricity Bill of ACSB

Month	JSC RED Nord-Vest		
	Billed	Paid	Balance
	lei	lei	lei
Jul-01	316,442		316,442
Aug-01	1,584,605	150,000	1,434,605
Sep-01	1,359,882	310,000	1,049,882
Oct-01	1,510,687	710,010	800,677
Nov-01	1,022,197	198,570	823,627
Dec-01	1,120,305	694,878	425,427
Jan-02	1,618,347	119,990	1,498,357
Feb-02	1,294,585	765,404	529,181
Mar-02	1,433,952	160,751	1,273,201
Apr-02	1,099,792	408,626	691,166
May-02	908,336	408,526	499,810
Total	13,269,130	3,926,755	9,342,375

Note: Liabilities on 1 August 2001 (lei)

10,159,731

Incl. By memorandum: 9,843,039

Table 9.3.3 Water Production Plan of ACSB for 2002

Approved on 10 Jan. 2002

	Amount, thousand m^3					
	Year 2002	Per Day (m3)	Quarter			
			I	II	III	IV
Productio	15,478.0	42,405	3,100.0	4,635.0	4,643.0	3,100.0
Loss	475.0	1,301	100.0	135.0	140.0	100.0
Billed	15,003.0	41,104	3,000.0	4,500.0	4,503.0	3,000.0
To ACB	14,820.0	40,603	2,969.5	4,439.0	4,442.0	2,969.5
To ACS	180.0	493	30.0	60.0	60.0	30.0
To Other Subscriber	3.0	8.2	0.5	1.0	1.0	0.5

Table 9.3.4 Balance Sheet (Assets)

Code	Apa Canal		Seroca-Baiti				Baiti		
		Code of row	1-4-2002	1-1-2002	1-1-2001	1-1-2000	1-1-2002	1-1-2001	1-1-2000
1	**Long-term Assets**								
11	**Intangible Assets**								
111,112	Intangible Assets	10			0		257,564	77,471	75,431
113	Amortization of Intangible Assets	20			0		(61,400)	(38,778)	(30,215)
11	11 Total (net)	30		0	0	0	196,164	38,693	45,216
12	**Long-term Tangible Assets**								
121	Tangible Assets in Process	40	1,511,507	1,507,247	802,391	802,391	175,564	205,720	203,578
122	Land	50							
123	Fixed Assets	60	117,485,503	117,485,502	117,486,795	134,348,061	147,368,196	146,938,314	142,572,628
125	Natural Resources	70							
124,126	Depreciation of Fixed Assets	80	(51,877,281)	(50,344,405)	(49,363,909)	(58,619,472)	(95,221,373)	(92,791,970)	(91,510,085)
12	12 Total (net)	90	67,119,729	68,648,344	68,925,277	76,530,980	52,322,387	54,352,064	51,266,121
13	**Long-term Financial Assets**								
131	Long-term Investments in Unrelated Parties	100							
132	Long-term Investments in Related Parties	110							
133	Changes in Valueof Long-term Investments	120							
134	Long-term Receivables	130							
135	Deferred Tax Assets	140					375,586	426,670	377,398
136	Long-term Prepayments Made	150							
13	13 Total	160		0	0	0	375,586	426,670	377,398
14	**Other Long-term Assets**	170					2,348		
1	Total Long-term Assets	180	67,119,729	68,648,344	68,925,277	76,530,980	52,896,485	54,817,427	51,688,735
2	**Current Assets**								
21	**Inventories**								
211	Materials	190	249,863	248,907	181,519	260,354	798,438	732,017	632,275
212	Livestock	200		0	0				
213-214	Low-value and Short-life Items (LVSLI, net)	210	28,808	35,153	24,584	24,562	56,522	32,306	27,447
215	Work-in-Process	220			0				
216	Products	230			0				
217	Goods	240	2,536	1,230	1,286	16,532	2,833	4,082	4,078
21	21 Total	250	281,207	285,290	207,389	301,448	857,793	768,405	663,800
22	**Short-term Receivables**								
221	Short-term Trade Receivables	260	15,623,098	12,202,165	8,661,874	8,394,489	12,946,774	11,634,794	4,577,893
222	Allowance for Doubtful Debts	270			0				
223	Short-term Receivables from Related Parties	280			0				
224	Short-term Prepayments Made	290			0		3,560	3,560	3,560
225	Short-term Receivables on Settlements with the Budget	300		56,107	90,226	15,012	1,954,096	1,068,590	1,325,116
226	VAT Receivables	310			0				
227	Short-term Receivables from Employees	320	492	1,549	8,312	4,712	18,912	5,790	4,026
228	Short-term Receivables on Income Accrued	330			0				
229	Other Short-term Receivables	340	163,803	147,759	10,505	28,927	1,013,089	842,636	848,744
22	22 Total	350	15,787,393	12,407,580	8,770,917	8,443,140	15,936,431	13,555,370	6,759,339
23	**Short-term Investments**								
231	Short-term Investments in Unrelated Parties	360			0				
232	Short-term Investments in Related Parties	370			0				
233	Decrease in Value of Short-term Investments	380			0				
23	23 Total	390			0	0			
24	**Cash**								
241	Cash in Hand	400	7	65	75	32	6,467	3,365	1,121
242	Settlements Account	410	50,033	15,053	169	0	170,483	62,945	197,838
243	Foreign Exchange Account	420			5	5			19,395
244	Special Bank Account	430			0		151,688	8,967	
24	24 Total	440	50,040	15,118	249	37	328,638	75,277	218,354
25	**Other Current Assets**	450	303	242	194	254	25,474	3,743	5,425
2	Total Current Assets	460	16,118,943	12,708,230	8,978,749	8,744,879	17,148,336	14,402,795	7,646,918
1+2	Total Assets	470	83,238,672	81,356,574	77,904,026	85,275,859	70,044,821	69,220,222	59,335,653

Table 9.3.5 Balance Sheet (Assets)

(lei)

Code	Apa Canal	Code of row	Seroca			Faleni			Riscani		
			1-1-2002	1-1-2001	1-1-2000	1-1-2002	1-1-2001	1-1-2000	1-1-2002	1-1-2001	1-1-2000
1	Long-term Assets										
11	Intangible Assets										
111,112	Intangible Assets	10									
113	Amortization of Intangible Assets	20									
11	11 Total (net)	30	0	0	0		0	0		0	0
12	Long-term Tangible Assets										
121	Tangible Assets in Process	40	1,796,449	1,302,526	1,146,488	32,837,351	32,962,398	32,867,122	4,317,342	3,928,737	3,928,737
122	Land	50		0						0	
123	Fixed Assets	60	42,451,278	42,419,174	42,358,330	16,688,531	16,694,668	17,017,410	63,416,857	10,194,777	10,532,664
125	Natural Resources	70		0						0	
124,126	Depreciation of Fixed Assets	80	(22,730,075)	(22,094,382)	(21,564,591)	(11,976,541)	(11,875,714)	(11,951,835)	(16,943,735)	(5,243,417)	(5,462,342)
12	12 Total (net)	90	21,517,652	21,627,318	21,940,247	37,549,341	37,781,352	37,932,697	50,790,464	8,880,097	8,999,059
13	Long-term Financial Assets										
131	Long-term Investments in Unrelated Parties	100									
132	Long-term Investments in Related Parties	110									
133	Changes in Value of Long-term Investments	120									
134	Long-term Receivables	130									
135	Deferred Tax Assets	140									
136	Long-term Prepayments Made	150									
13	13 Total	160					0	0			
14	Other Long-term Assets	170					0	0			
1	Total Long-term Assets	180	21,517,652	21,627,318	21,940,247	37,549,341	37,781,352	37,932,697	50,790,464	8,880,097	8,999,059
2	Current Assets										
21	Inventories										
211	Materials	190	163,784	97,680	84,743	49,810	67,109	86,823	23,664	16,314	14,139
212	Livestock	200		0	0						
213-214	Low-value and Short-life Items (LVSLI, net)	210	14,491	7,522	33,730	12,051	13,281	19,648	12,686	6,417	2,685
215	Work-in-Process	220									
216	Products	230									
217	Goods	240	7,377	4,675	2,470			562			
21	21 Total	250	185,652	109,877	120,943	61,861	80,390	107,033	36,350	22,731	16,824
22	Short-term Receivables										
221	Short-term Trade Receivables	260	3,038,730	2,263,833	2,746,351	536,996	581,929	474,037	570,581	363,856	257,457
222	Allowance for Doubtful Debts	270		0						0	
223	Short-term Receivables from Related Parties	280	22,636	20,267	16,592				181,159	113,903	135,352
224	Short-term Prepayments Made	290		0					216	0	
225	Short-term Receivables on Settlements with the Budget	300	133,934	122,479	111,777	65,928	80,658	178,418	6,944	96,259	173,601
226	VAT Receivables	310									
227	Short-term Receivables from Employees	320	617	14,833	13,174	2,797	1,164	2,155	20,357	5,127	15,134
228	Short-term Receivables on Income Accrued	330	2,942	2,942	3,722				696		
229	Other Short-term Receivables	340		0	7,080	125,792	125,792	291,468	6,545	5,287	44
22	22 Total	350	3,198,859	2,424,354	2,898,696	731,513	789,543	946,078	786,498	584,432	581,588
23	Short-term Investments										
231	Short-term Investments in Unrelated Parties	360									
232	Short-term Investments in Related Parties	370									
233	Decrease in Value of Short-term Investments	380									
23	23 Total	390					0	0			
24	Cash										
241	Cash in Hand	400	7	2	4	200	257	68	38	750	722
242	Settlements Account	410	8,190	947	74,122	31	764	92	9,465	11,195	1,979
243	Foreign Exchange Account	420	24	1							
244	Special Bank Account	430									
24	24 Total	440	8,221	950	74,126	231	1,021	160	9,503	11,945	2,701
25	Other Current Assets	450	846	308	1,288			22,276			1,152
2	Total Current Assets	460	3,393,578	2,535,489	3,095,853	793,605	876,954	1,075,547	832,351	619,108	602,265
1+2	Total Assets	470	24,911,230	24,162,807	25,035,300	38,342,946	38,652,306	39,008,244	51,622,815	9,499,205	9,601,324

Table 9.3.6 Balance Sheet (Liabilities and Owner's Equity)

Code	Apa Canal	Code of row	Soroca-Balti				Balti		
			1-4-2002	1-1-2002	1-1-2001	1-1-2000	1-1-2002	1-1-2001	1-1-2000
3	**Owner's Equity**								
31	**Statutory and Additional Capital**								
311	Statutory Capital	480	70,850,287	70,850,287	152,117	152,117	52,194,696	3,966	3,966
312	Additional Capital	490			643,138	643,138	6,053,735	6,048,263	
313	Unpaid Capital	500			0			0	
314	Withdrawn Capital	510			(5,000,722)			0	
	31 Total	520	70,850,287	70,850,287	(4,205,467)	795,255	58,248,431	6,052,229	3,966
3	**Reserves**								
321	Legal Reserves	530							
322	Statutory Reserves	540			82,457,548	82,457,548	2,854,839	2,854,839	2,854,839
323	Other Reserves	550	7,401,792	7,401,792			996,136	53,186,866	53,186,866
	32 Total	560	7,401,792	7,401,792	82,457,548	82,457,548	3,850,975	56,041,705	56,041,705
33	**Retained Earnings**								
331	Adjustment on Results of Prior Periods	570	(1,191,238)	66,681			(731,300)	(22,016)	
332	Retained Earnings (deficit) of Prior Years	580	(14,388,885)	(13,855,491)	(7,401,794)	(7,401,794)	(8,446,869)	(8,271,727)	(8,271,727)
333	Net Profit (loss) of the Reporting Period	590	(288,211)	(600,075)	(6,453,697)		(5,837,356)	(153,128)	
334	Dividends Prepaid	600			0				
	33 Total	610	(15,868,334)	(14,388,885)	(13,855,491)	(7,401,794)	(15,015,525)	(8,446,871)	(8,271,727)
34	**Non-owner's Equity**								
341	Differences on Reevaluation of Long-term Assets	620							
342	Subsidies to State-owned Enterprises	630					65,314	65,312	32,436
	34 Total	640			0	0	65,314	65,312	32,436
3	Total Owner's Equity	650	62,383,745	63,863,194	64,396,590	75,851,009	47,149,195	53,712,375	47,806,380
4	**Long-term Financial Liabilities**								
41	Long-term Financial Liabilities								
411, 412	Long-term Bank Credits	660			0				
413	Long-term Loans	670			0				
414	Other Long-term Financial Liabilities	680			0				
	41 Total	690			0	0	0		
42	**Long-term Accrued Liabilities**								
421	Long-term Lease Liabilities	700			0				
422	Long-term Deferred Income	710			0				
423	Target Financing and Receipts	720			0		50,000	50,000	50,000
424	Long-term Prepayment Received	730			0				
425	Deferred Tax Liabilities	740	114,501		0				
426	Other Long-term Accrued Liabilities	750			0				
	42 Total	760	114,501		0	0	50,000	50,000	50,000
4	Total Long-term Financial Liabilities	770	114,501		0		50,000	50,000	50,000
5	**Short-term Liabilities**								
51	Short-term Financial Liabilities								
511, 512	Short-term Bank Credits	780			100,000				
513	Short-term Loans	790							
514	Current Portion of Long-term Liabilities	800							
515, 516	Other Short-term Financial Liabilities	810							
	51 Total	820	0		100,000	0			
52	**Short-term Trade Liabilities**								
521	Short-term Trade Liabilities	830	17,680,582	14,409,842	9,507,113	7,447,083	21,470,869	12,565,549	8,601,377
522	Short-term Liabilities to Related Parties	840			0				
523	Short-term Prepayment Received	850			0		639,261	1,642,570	2,433,340
	52 Total	860	17,680,582	14,409,842	9,507,113	7,447,083	22,110,130	14,208,119	11,034,717
53	**Short-term Accrued Liabilities**								
531	Liabilities to Employees on Remuneration of Labor	870	330,626	414,857	319,091	258,595	288,093	605,272	184,519
532	Liabilities to Employees for other Transaction	880	460	1,257	838	1,109	103	200	769
533	Liabilities on Insurance	890	581,186	638,093	574,812	338,655	185,754	451,703	119,826
534	Liabilities on Settlements with the Budget	900	1,849,302	1,695,952	1,556,432	981,756	221,782	182,313	130,235
535	VAT and Excise Tax Accrued	910			0				
536	Non-budgetary Liabilities	920	188,651	183,861	174,174	139,052	10,240	10,240	9,207
537	Liabilities to Founders and Other Co-founders	930							
538	Provisions for Future Expenses and Payments	940							
539	Other Short-term Liabilities	950	109,619	149,518	1,274,976	258,600	29,524		
	53 Total	960	3,059,844	3,083,538	3,900,323	1,977,767	735,496	1,249,728	444,556
5	Total Short-term Liabilities	970	20,740,426	17,493,380	13,507,436	9,424,850	22,845,626	15,457,847	11,479,273
3+4+5	Total Owner's Equity and Liabilities	980	83,238,672	81,356,574	77,904,026	85,275,859	70,044,821	69,220,222	59,335,653

Table 9.3.7 Balance Sheet (Liabilities and Owner's Equity)

(Lei)

Code	Account	Code of row	Soroca			Faleşti			Rîşcani		
			1-1-2002	1-1-2001	1-1-2000	1-1-2002	1-1-2001	1-1-2000	1-1-2002	1-1-2001	1-1-2000
3	Owner's Equity										
31	Statutory and Additional Capital										
311	Statutory Capital	480	22,189,485	22,189,485	22,189,485	170,994	170,994	170,994	11,166,787	11,067,660	11,067,660
312	Additional Capital	490									
313	Unpaid Capital	500									
314	Withdrawn Capital	510									
	31 Total	520	22,189,485	22,189,485	22,189,485	170,994	170,994	170,994	11,166,787	11,067,660	11,067,660
32	Reserves										
321	Legal Reserves	530									
322	Statutory Reserves	540	178,676	178,676	178,676	15,476	18,550	21,966		3,570	5,310
323	Other Reserves	550				4,744,438	4,953,435	4,953,435	40,006,357		
	32 Total	560	178,676	178,676	178,676	4,759,914	4,971,985	4,975,401	40,006,357	3,570	5,310
33	Retained Earnings										
331	Adjustment on Results of Prior Periods	570		(86,371)							
332	Retained Earnings (deficit) of Prior Years	580	(5,405,940)	(3,580,787)	(3,580,787)		(103,070)	17,050	(506,131)	(134,122)	(192,519)
333	Net Profit (loss) of the Reporting Period	590	(1,321,366)	(1,758,782)		(239,887)	(105,927)	(120,120)	(13,558)	(326,925)	129,143
334	Dividends Prepaid	600									
	33 Total	610	(6,727,306)	(5,426,940)	(3,580,787)	(239,887)	(208,997)	(103,070)	(519,689)	(461,047)	(63,376)
34	Non-owner's Equity										
341	Differences on Revaluation of Long-term Assets	620								(1,865,454)	(1,865,454)
342	Subsidies to State-owned Enterprises	630				28,028	21,493	21,493	47,942	48,080	28,897
	34 Total	640				28,028	21,493	21,493	47,942	(1,817,374)	(1,836,557)
3	Total Owner's Equity	650	15,640,855	16,962,221	18,787,374	4,719,049	4,955,478	5,064,818	50,701,397	8,772,809	9,173,857
4	Long-term Financial Liabilities										
41	Long-term Financial Liabilities										
411, 412	Long-term Bank Credits	660									
413	Long-term Loans	670									
414	Other Long-term Financial Liabilities	680							30,000	30,000	30,000
	41 Total	690		0	0				30,000	30,000	30,000
42	Long-term Accrued Liabilities										
421	Long-term Lease Liabilities	700									
422	Long-term Deferred Income	710									
423	Target Financing and Receipts	720	1,907,844	1,307,844	1,107,844	32,949,376	32,949,376	32,949,376			
424	Long-term Prepayment Received	730									
425	Deferred Tax Liabilities	740	1,111,756	682,334							38,397
426	Other Long-term Accrued Liabilities	750									
	42 Total	760	3,019,600	1,990,178	1,107,844	32,949,376	32,949,376	32,949,376	0	0	38,397
4	Total Long-term Financial Liabilities	770	3,019,600	1,990,178	1,107,844	32,949,376	32,949,376	32,949,376	30,000	30,000	68,397
5	Short-term Liabilities										
51	Short-term Financial Liabilities										
511, 512	Short-term Bank Credits	780	400,000	26,398					229		
513	Short-term Loans	790									
514	Current Portion of Long-term Liabilities	800									
515, 516	Other Short-term Financial Liabilities	810							64,403		
	51 Total	820	400,000	26,398	0	0	0	0	64,632	0	0
52	Short-term Trade Liabilities										
521	Short-term Trade Liabilities	830	3,782,192	3,636,832	4,206,109	272,755	411,084	411,894	140,402	14,284	12,440
522	Short-term Liabilities to Related Parties	840							0	128,425	67,626
523	Short-term Prepayment Received	850							113,411	18,380	24,114
	52 Total	860	3,782,192	3,636,832	4,206,109	272,755	411,084	411,894	253,813	161,089	104,180
53	Short-term Accrued Liabilities										
531	Liabilities to Employees on Remuneration of Labor	870	364,335	573,437	237,025	88,970	66,697	34,145	54,840	150,650	111,277
532	Liabilities to Employees for other Transaction	880	16,006	12,678	5,404		0	36	599	844	411
533	Liabilities on Insurance	890	1,567,705	912,568	484,196	78,694	29,337	7,832	302,140	230,045	128,501
534	Liabilities on Settlements with the Budget	900	120,537	48,495	18,675	158,978	174,365	305,524	215,394	147,254	84,991
535	VAT and Excise Tax Accrued	910					0	0	0	0	0
536	Non-budgetary Liabilities	920			33,896	666	666	666		6,514	9,683
537	Liabilities to Founders and Other Co-founders	930				42,119	42,119	210,806			
538	Provisions for Future Expenses and Payments	940			154,777		0	0			
539	Other Short-term Liabilities	950				32,339	23,187	23,147			
	53 Total	960	2,068,583	1,547,178	933,973	401,766	336,371	582,156	572,973	535,307	334,863
5	Total Short-term Liabilities	970	6,250,775	5,210,408	5,140,082	674,521	747,455	994,050	891,418	696,396	439,043
3+4+5	Total Owner's Equity and Liabilities	980	24,911,230	24,162,807	25,035,300	38,342,946	38,652,306	39,008,244	51,622,815	9,499,285	9,680,477

Table 9.3.8 Income Statement

(lei)

Code			Soroca-Balti					Balti		
		Code/row	1-3 of 2002	1-3 of 2001	2001	2000	1999	2001	2000	1999
611	Revenue from Sales	10	4,526,363	11,862	8,516,280	2,868,632	11,567,357	29,156,434	28,132,306	20,028,770
711	Cost of Sales	20	4,306,099	387,551	7,746,736	6,232,248	13,605,847	32,020,635	26,634,693	26,886,490
	Gross Profit (Gross Loss)	**30**	**220,264**	**(375,689)**	**769,544**	**(3,363,616)**	**(2,038,490)**	**(2,864,201)**	**1,497,613**	**(6,857,720)**
612	Other Operating Income	40			3,773	3,420	8,038	944,640	1,153,068	2,004,133
712	Marketing and Selling Expenses	50						699,992		
713	General and Administrative Expens	60	78,969	69,983	320,001	270,917	350,180	2,310,343	2,101,679	1,751,079
714	Other Operating Expenses	70	427,509	444,115	913,799	2,787,221	1,189,227	916,795	848,336	894,287
	Result of Operation	**80**	**(286,214)**	**(889,787)**	**(468,029)**	**(6,418,334)**	**(3,569,859)**	**(5,846,691)**	**(299,334)**	**(7,498,953)**
621-721	Result of Investing Activity	90		(127,583)	(147,221)	(5,974)	6,775	5,263	750	3,449
622-722	Result of Financing Activity	100	3	15,174	15,175	(29,389)	49,892	55,156	96,184	85,334
	Income before Extraordinary Loss	**110**	**(286,211)**	**(1,002,196)**	**(600,075)**	**(6,453,697)**	**(3,513,192)**	**(5,786,272)**	**(202,400)**	**(7,410,170)**
623-723	Extraordinary Loss	120	(2,000)			0				
	Income before Tax	130	(288,211)	(1,002,196)	(600,075)	(6,453,697)	(3,513,192)	(5,786,272)	(202,400)	(7,410,170)
731	Tax Expenses	140				0		51,084	(49,272)	(297,752)
	Net Income	**150**	**(288,211)**	**(1,002,196)**	**(600,075)**	**(6,453,697)**	**(3,513,192)**	**(5,837,356)**	**(153,128)**	**(7,112,418)**

Table 9.3.9 Income Statement

(lei)

Code			Soroca			Falesti			Riscani		
		Code/row	2001	2000	1999	2001	2000	1999	2001	2000	1999
611	Revenue from Sales	10	4,303,434	3,731,237	4,910,545	559,418	612,647	1,075,161	1,030,295	922,114	1,433,587
711	Cost of Sales	20	4,289,261	4,673,495	5,260,745	694,702	651,898	970,887	908,202	1,056,179	1,387,035
	Gross Profit (Gross Loss)	**30**	**14,173**	**(942,258)**	**(350,200)**	**(135,284)**	**(39,251)**	**104,274**	**122,093**	**(134,065)**	**46,552**
612	Other Operating Income	40	2,726	7,689	17,467		8,075		28,844	150,329	36,908
712	Marketing and Selling Expenses	50		0	0					121,013	0
713	General and Administrative Expens	60	437,126	513,775	324,429	103,933	116,105	207,024	163,071	135,507	140,348
714	Other Operating Expenses	70	450,083	291,515	1,102,190			17,370	2,966	61,803	55,359
	Result of Operation	**80**	**(870,310)**	**(1,739,859)**	**(1,759,352)**	**(239,217)**	**(147,281)**	**(120,120)**	**(15,100)**	**(302,059)**	**(112,247)**
621-721	Result of Investing Activity	90		11,869	204	(670)	1,230		(730)	(24,866)	
622-722	Result of Financing Activity	100	(21,634)	520,993	(1,254)		22,957		2,272		
	Income before Extraordinary Loss	**110**	**(891,944)**	**(1,206,997)**	**(1,760,402)**	**(239,887)**	**(123,094)**	**(120,120)**	**(13,558)**	**(326,925)**	**(112,247)**
623-723	Extraordinary Loss	120					17,167				
	Income before Tax	130	(891,944)	(1,206,997)	(1,760,402)	(239,887)	(105,927)	(120,120)	(13,558)	(326,925)	(112,247)
731	Tax Expenses	140	429,422	531,785	0						(17,176)
	Net Income	**150**	**(1,321,366)**	**(1,738,782)**	**(1,760,402)**	**(239,887)**	**(105,927)**	**(120,120)**	**(13,558)**	**(326,925)**	**(129,423)**

Table 9.3.10 Cash Flow Statement for the Year of 2001

(lei)

Apa Canal	Code of row	Soroca-Balti	Balti	Soroca	Falesti	Riscani
Operational activity	080	114,869	253,362	(365,397)	(790)	(2,442)
Investment activity	140	0	0	0	0	0
Financial activity	210	(100,000)	0	373,602	0	0
The net inflow from the economic-financial activity without exceptional articles	220	14,869	253,362	8,205	(790)	(2,442)
Exceptional collections (payments) of monetary assets	230		0	0	0	0
Total net inflow	240	14,869	253,362	8,205	(790)	(2,442)
Favorable (unfavorable) differences of exchange rate	250	0	0	(934)	0	0
The balance of monetary assets at the beginning of the year	260	249	75,277	950	1,021	11,945
The balance of monetary assets at the end of the financial period	270	15,118	328,639	8,221	231	9,503

Table 9.3.11 The Cost Structure of ACSB

(lei)

Expenditure		2,000			1,999		
1.Direct Material Expenditure		14,796,248			13,510,453		
	Materials		771,125	3.82%		771,125	4.51%
	Fuel		93,500	0.46%		93,500	0.55%
	Electricity		13,931,623	68.99%		12,645,828	73.96%
	Payment for Procured			0.00%			0.00%
	Payment for Waste Water Removal			0.00%			0.00%
2. Direct Payment for the Retribution of		243,094			243,094		
	Wages for Main and Overtime Work		185,568	0.92%		185,568	1.09%
	Social Security Contributions (31%)		57,526	0.28%		57,526	0.34%
3. Indirect Production Expenditure		4,683,892			3,053,188		
	Indirect Expenditure for Maintenance of Operational Fixed Assets with Production Use		1,471,320	7.29%			0.00%
	Depereciation of Fixed Assets of Production Use		2,596,458	12.86%		2,596,458	15.19%
	Wages for Additional Employees and Administrative Personnel, including Awards, Bonuses		237,474	1.18%		237,474	1.39%
	Social Security Contributions (31%)		73,616	0.36%		73,616	0.43%
	Payment for Labor Security and Security Techniques		57,700	0.29%			0.00%
	Mandatory Insurance for Production Personnel			0.00%			0.00%
	Other Expenditure According to Legislation		247,324	1.22%		145,640	0.85%
4. Lump-sum of Sale Prices (1+2+3)		19,723,234			16,806,735		
5. Expenditure for the Period		449,317			290,437		
	Commercial Payment			0.00%			0.00%
	General and Administrative Expenditure		449,317	2.23%		290,437	1.70%
	Other Operational			0.00%			0.00%
6. Cost of Produced Goods (4+5)		20,192,551		100.00%	17,097,172		100.00%

Table 9.3.12 The Receivables and Liabilities of ACB

(1000 lei)

	Items	1st of May 2002	1st of January 2002	Difference
Total Receivables	National Budget	492.0	499.4	(7.4)
	County Budget	2,051.2	1,900.3	150.9
	Municipality Budget	1,929.3	2,224.5	(295.2)
	Population	3,683.1	3,632.9	50.2
	Enterprises	6,045.3	4,705.3	1,340.0
	Other than Water Sales	3,696.0	2,552.1	1,143.9
	Total	17,896.9	15,514.5	2,382.4
Total Liabilities	Purchased Water	13,631.3	8,590.2	5,041.1
	Electricity	10,055.0	9,500.1	554.9
	Social Fund	50.4	156.7	(106.3)
	Material and Services	2,564.7	2,696.0	(131.3)
	To the Government	192.7	286.0	(93.3)
	Wages	310.7	0.0	310.7
	Customers	280.8	597.9	(317.1)
	Total	27,085.6	21,826.9	5,258.7

Figure 9.3.1 The Financial Result of the Ten Months Operation of ACSB

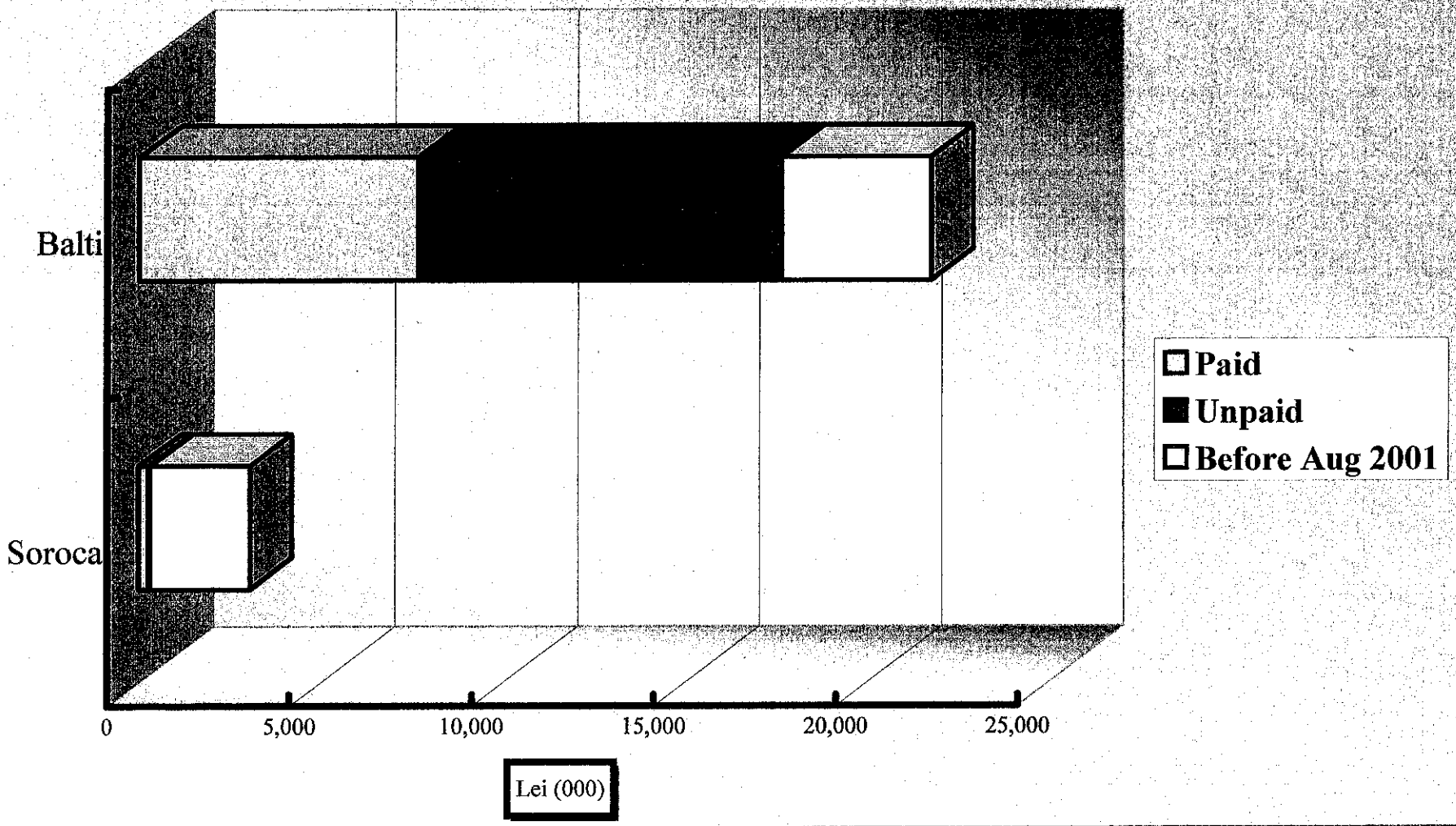


Figure 9.3.2 The ACSB Payment to RED Nord-Vest

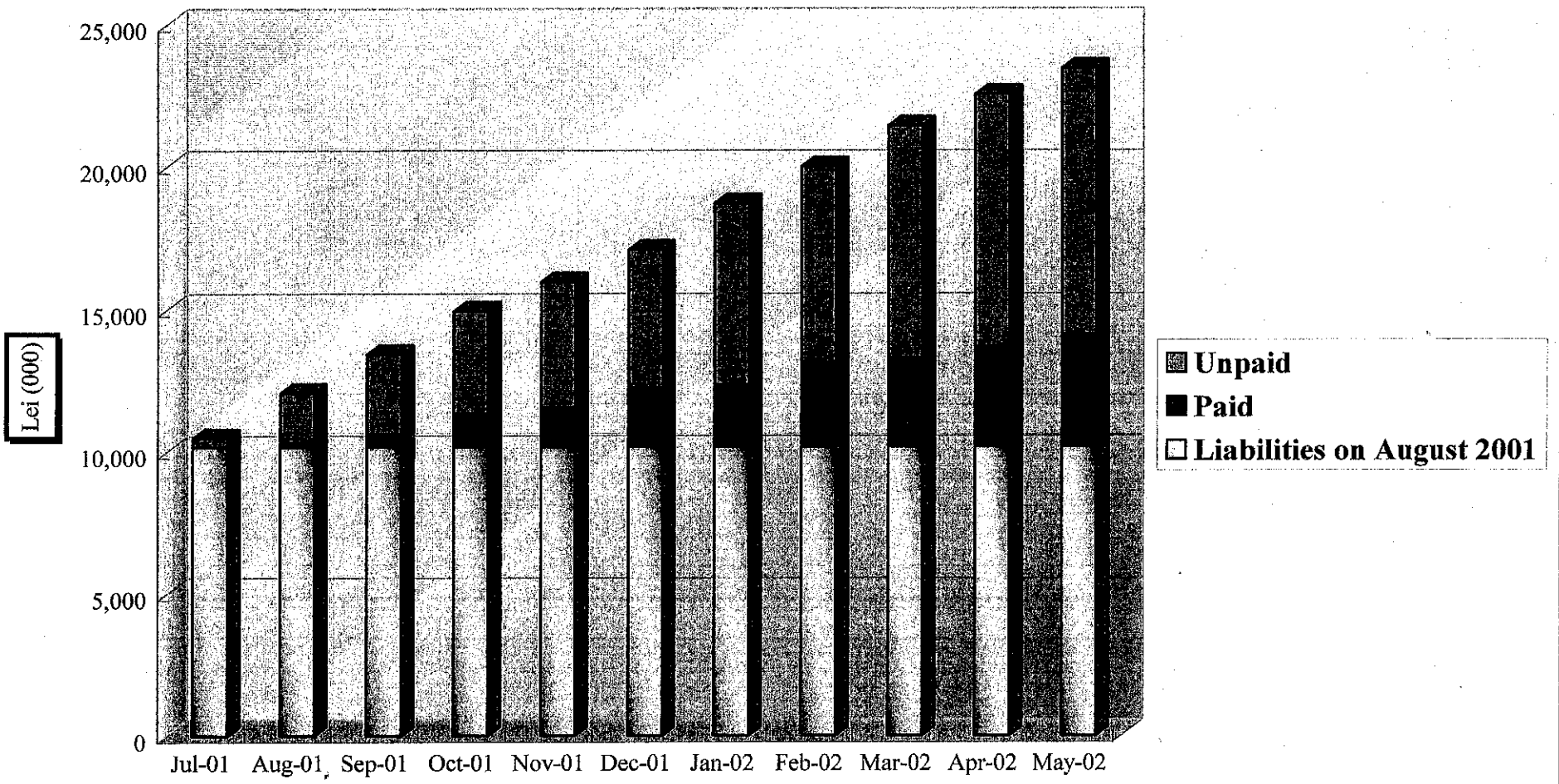
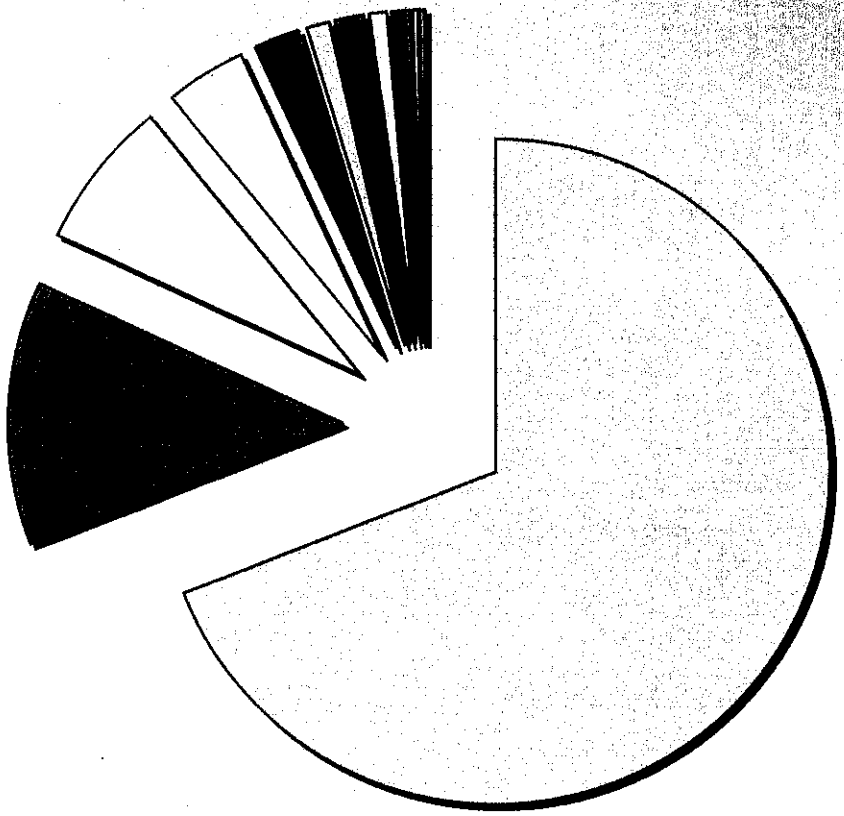


Figure 9.3.3 The Cost Structure of ACSB (2000)



- Electricity
- Depereciation of Fixed Assets
- Maintenance of Operational Fixed Assets
- Materials
- General and Administrative Expenditure
- Other Expenditure According to Legislation
- Wages for Additional Employees and Administrative Personnel
- Wages for Main and Overtime Work
- Fuel
- Social Security Contributions (31%)
- Payment for Labor Security and Security Techniques
- Social Security Contributions (31%)

Figure 9.3.4 The Cost Structure of Tokyo Water Supply

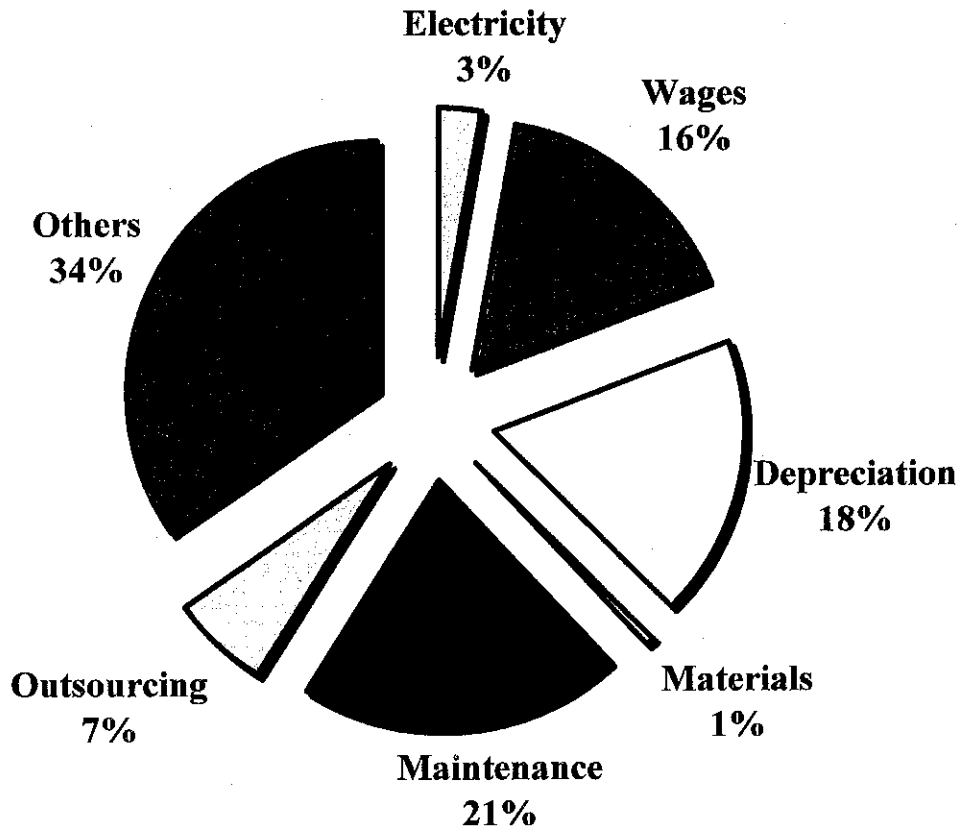


Figure 9.3.5 The Cost Strucuture of Nagano Water Supply