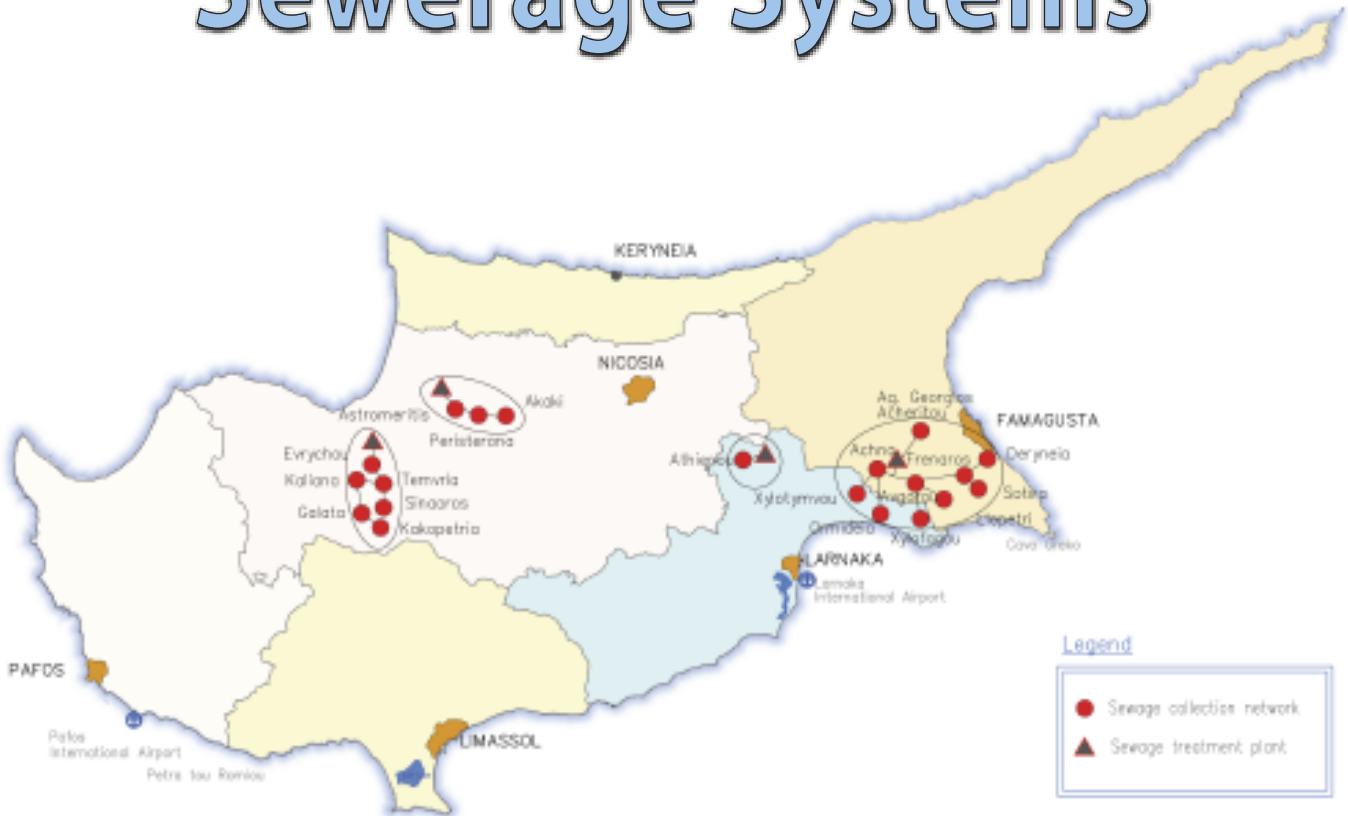


Co-Financed Sewerage Systems



The Water Development Department (WDD) is responsible for the implementation of the EU Directive 91/271/EEC on urban waste water for the protection of public health and the environment. In order to conform with the European directive, the construction of sewerage schemes for rural communities or municipalities with a population of more than 2 000 people, is promoted.

WDD, as the implementing authority, has undertaken the promotion of four co-financed sewerage schemes including **the Sewerage System of the Astromeritis - Peristerona – Akaki Complex, the municipality of Athienou, the Kokkinochoria complex and the Solea complex.**

The above projects are co-financed by the Cohesion Fund of the European Union. The financing is covered under the Priority Axis: “Basic Infrastructure in Environment and Energy” of the Operational Programme “Sustainable Development and Competitiveness” for the programming period 2007-2013. In addition, part of the contribution for the cost of the projects is covered by the state and the community itself or through a loan.

Each project includes the construction of a sewage collection and conveyance network, the design and construction of a sewage treatment plant, pumping stations, storage ponds and reuse schemes of recycled water and sludge treatment system.

The Planning Bureau acts as the Managing Authority for Structural Funds and the Cohesion Fund. The Department of Control of the Ministry of Communications and Works acts as the intermediary for the monitoring and the control of these projects. The WDD, acting as the beneficiary of the project, is managing the implementation and supervision of the proper execution of the construction of the four sewerage systems. The municipalities and communities that are involved have established their own Sewerage Councils which act as operators and are chaired by the respective Mayor or District Officer.

The design of the sewerage collection and conveyance networks has been developed by the firm of Consulting Engineers «Sogreah-Modinos and Vrahimi» for the Sewerage Schemes of the Astromeritis - Peristerona – Akaki complex, the municipality of Athienou, and the Kokkinochoria Complex and by the Water Development Department for the Solea Complex. The design of the sewage treatment plants will be undertaken by the contractor who will be awarded the contract for each scheme. The construction and operation of the stations will be assigned through the Turn Key Project method, which gives flexibility to the contractor to choose the treatment method based on predetermined standards of the final effluent.

Sewerage System of the Astromeritis - Peristerona – Akaki complex

The sewerage system of the Astromeritis - Peristerona – Akaki complex is the first to be co-financed by the Cohesion Fund of the European Union. The project includes two construction contracts. The first contract involves the construction of the sewage collection networks in the three communities and includes wastewater pipelines, which are divided into gravity pipeline (48,1 km), force main pipeline (7,0 km), house connections (17,5 km), inspection man-holes and other related work. The second contract includes the design and construction of a common Sewage Treatment Plant and other related work. The station will have a capacity of 1 770 m³ wastewater per day and is located in the community of Astromeritis, serving all three communities.

The project is designed to serve an estimated population of 10.700 people in the year 2032. It is expected that the project will produce approximately 460 000 m³ tertiary treated water per year suitable for irrigation (average flow).

The total estimated project cost amounts to €21.300.000 and the maximum contribution which may be financed by the Cohesion Fund of the EU is about € 14.800.000.

Sewerage System of the Athienou municipality

The implementation of the co-financed project “Sewerage Scheme of the Athienou Municipality” is composed of two construction contracts. The first contract involves the construction of the sewerage collection network for Athienou. The work required for this contract includes the supply and installation of approximately 37 km gravity pipeline network, 1,3 km force main pipeline and 13,7 km house connections, including all related work. The second construction contract includes the sewage treatment plant which will have a capacity of 1 078 m³ wastewater per day. The plant will cover a total area of 30 000 m² and will be located approximately 1.6 km north of the centre of the municipality, within the buffer zone.

The project is expected that by the year 2034, will serve approximately 6.451 people (population equivalent), producing about 220 000 m³ of tertiary treated water per year (average flow), which will be suitable for irrigation. The estimated project cost amounts to €13.200.000 and the maximum contribution which may be financed by the Cohesion Fund of the EU about €6.100.000.



Cutting of asphalt



Trench excavation



Drilling of manholes



Asphalt laying



Laying of road base



Laying of pipe bedding material



Pipe laying



Construction of manhole



Laying of backfill material



Compaction of backfill material

Sewerage System of the Kokkinochoria complex

The implementation of the co-financed project “Sewerage Scheme of the Kokkinochoria complex” includes the construction of wastewater collection networks in 10 communities of the Larnaca and Famagusta provinces. They include the areas within the municipal boundaries of Deryneia and Sotira and the Community Councils of Achna, Avgorou, Acheritou, Liopetri, Xylofagou, Xylymbou, Frenaros and Ormidia.

The project includes the construction of wastewater collection networks, of about 313,0 km, and a common Sewage Treatment Plant, with a capacity of 10.644 m³ wastewater per day. The Sewage Treatment Plant, which is located within the boundary of Achna, northeast of the Achna dam, will be designed and constructed to serve an estimated population of 49.900 by 2039. The production of recycled water, which will be available for irrigation on land around the station, within the administrative boundaries of Achna and Avgorou communities, is expected to rise until the year 2039 to 2.400.000 m³ per year. The annual production of treated sludge, which will be used for approved crops as compost, is estimated at 4.047 m³.

The total cost of the project is expected to reach €95.000.000 and the maximum contribution, which may be financed by the Cohesion Fund of the EU, about €64.800.000. Based on the interpretation of Community regulations that a project is considered major if it has a budget of more than €50.000.000, the construction of the Sewerage System of the Kokkinochoria Complex is one of the major projects which are promoted for co-financing from EU funds.

Sewerage System of the Solea Complex

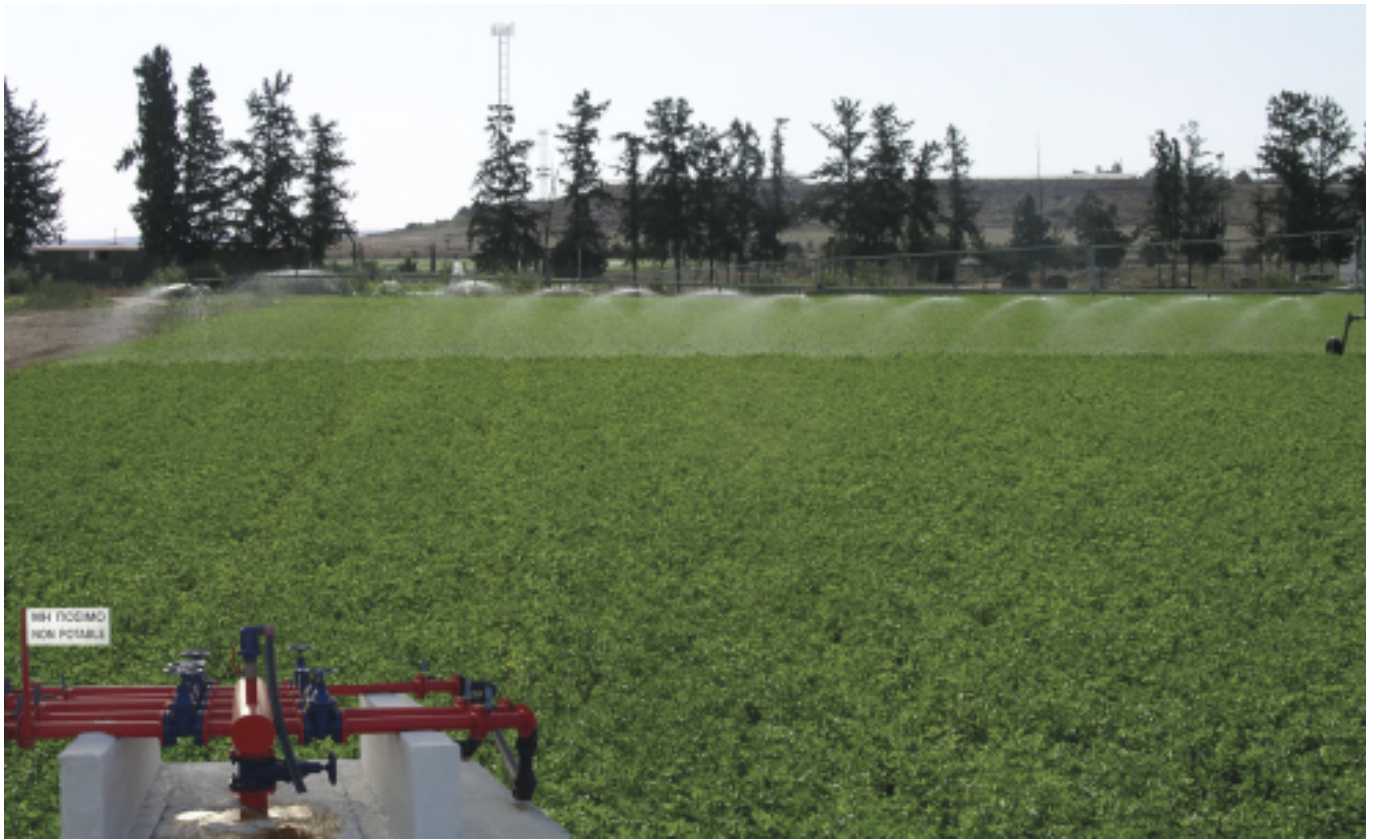
The Sewerage System of the Solea Complex includes the construction of wastewater collection networks in the communities of Kakopetria, Galata, Sina Oros, Kalliana, Tembria and Evrychou (approx. 71,0 km) and the construction of a common Sewage Treatment Plant within the boundaries of the Hellenic Copper Mines Ltd in Skouriotissa (capacity of 1.000 m³ per day).

The project is designed for the planning horizon of 2030 and the equivalent population to be served by the project is estimated at 7.500 people. It is expected that the project will produce approximately 400.000 m³ of tertiary treated water per year, suitable for irrigation.

The project consists of four construction contracts, which include the sewerage network in Galata and Kakopetria, the network in Kalliana and Sina Oros, the network in Tembria and Evrychou and the design and construction of the Sewage Treatment Plant.

The total estimated project cost is approximately €22.000.000 and the maximum contribution which may be financed by the Cohesion Fund of the EU about €16.300.000.

The Sewerage Systems of the Astromeritis - Peristerona – Akaki Complex, the Kokkinochoria Complex, the Solea Complex and the Municipality of Athienou



Irrigation with treated wastewater

Sewerage Fees and Service Fees

The sewerage and service fees enforced by the respective Sewerage Board are based on the estimated value of real estate in January 1st 1980, as determined by the Department of Lands and Surveys. Sewerage fees are applied to cover the capital costs of the project and the repayment of various loans and interest. The services fees are levied on the consumption of water in any premises that are connected and use the sewerage system. The fees charged are to cover operating costs and maintenance. The charges are set by regulations adopted by the House of Representatives and are published in the Cyprus Government Gazette.

Benefits

The benefits arising from the construction of these sewerage systems are primarily to protect the environment and groundwater resources, avoiding sewage seeping into the subsoil. Additionally, the protection of public health is ensured by avoiding problems caused by the overflow of sewage pits. Major benefits also include the production of recycled water used for irrigation of agricultural crops and enrichment of aquifers. In this way, significant quantities of water are saved which are valuable for addressing the water scarcity that plagues our country, and thereby improving the water balance. The reuse of the sludge by farmers and breeders can be considered significant as well. As a result, there will be an improvement in the living standards of beneficiaries of the projects and new jobs will be created.

