1. Basic Information
1.1. Desiree Number: PL01.06.04.04
1.2. Title: Environmental protection infrastructure in Jaroslaw
1.3. Sector: ESC
1.4. Location: Poland, Podkarpackie voivodship, town of Jaroslaw.

2. Objectives
2.1. Wider Objectives:
To enhance the economic and social cohesion of Podkarpackie voivodship and strengthening regional competitiveness through the upgrading of the environment protection infrastructure.

2.2. Immediate Objective:
These goals were defined directly in the Operational Programme for Podkarpackie voivodship and relate to the priority activities, which are to be engaged in. These include: Enhancing investment attractiveness of the area; Improving natural environment.

2.3. Accession Partnership and NPAA priority:
The project responds to the medium term priority identified in the Accession Partnership - developing national policy for economic and social cohesion and preparing for the implementation of regional development programmes as well as Community Initiatives. It corresponds also with the NPAA priority "Regional and cohesion policy".

2.4. Contribution to the Preliminary National Development Plan:
Environmental infrastructure is both a contributor to economic activity and a factor ensuring quality of life in the region. Therefore one of the priorities for the country’s cohesion policy identified in the PNNDP is “Creation of conditions for balanced and sustainable development of environmental infrastructure”. These projects shall be complemented and enhanced by the activities carried out in the regions under the priority “Strengthening development potential of regions and counteracting marginalisation of certain areas”. One of the proposed measures under the priority is “Development and modernisation of infrastructure serving to strengthen competitiveness of the regions”. It will be implemented in line with the priorities of ecological policy of the state. Regional projects in waste management, protection against water and air pollution as well as water management shall have a priority as those contributing to the achievement of economic and social cohesion of the country. The project is also in line with the operational programme for Podkarpackie Voivodship.

2.5. Cross Border Impact:
Not applicable

3. Description
3.1. Background and justification:
The town of Jaroslaw is located in the south-east of Poland and in the east of Podkarpackie voivodship (see map). It is one of the largest towns in the voivodship and plays a strategic role in its economy. The town is located in an area of intensive socio-economic activity, which extends from the west to the east. It is also situated on a trade route leading to Lvov and the Black Sea, which includes communication routes, technical and economic infrastructure. All these create suitable conditions for the development of firms working in different sectors (production, social, services, financial, tourism and transport). Jaroslaw is an important regional and national centre as far as the food, glass and light industries are concerned. Besides private small and medium-sized enterprises, large former public enterprises function here. With its many famous historical monuments, the city is also known as the “tourist pearl” of the region. Its geographic location (the largest town within 35 km of Poland’s eastern border) makes it a centre for trade exchange and a customs house, transit and shipping services. All these functions should be strongly reinforced as, following Poland’s accession to the European Union, the city will play the role of an EU border centre. Currently the town is unable to take full advantage of its economic, geographical and historic qualities. Shortfalls in technical infrastructure and its irregular growth are the biggest obstacles to the town’s development causing stagnation and unemployment. This project is compatible with the priorities and goals defined in the Development Strategy for the Podkarpackie voivodship for 2000-2006 and with the Development Strategy for Jaroslaw 2000-2010. It represents a priority activity, with implementation expected for 2000 – 2003. It is divided into 2 phases. Phase I (currently executed) includes: building of biological reactor "B" with a blower station and PIX dosage station (together with the
automatisms and steering system); modernisation of the sewage pumping station, the initial depositor, the air system chamber and the technological installation chamber; building (between the sewage pumping stations and initial depositors) a complete technological network with fittings and chambers. The realisation of Phase II, which is the subject of this project, is planned for between 2001-2003. When modernised, the system will permit collection of sewage from areas of the town currently lacking a permanent arrangement. The project is located within administrative borders of the town in its northern part but outside of the populated area (there is protected area ranged in 300 metres around the existing plant). The planned A4 motorway will be located on the other (southern) part of the town – approx. 1.2 km from the plant. At present, the existing sewage treatment plant is overburdened (daily input of sewage equals to 16 000 m³ while existing capacity is only 14 055 m³/day) and does not meet the requirements of environmental protection in regard to the sewage pumped to the receiving water. This is a basic obstacle, which makes further building of the sewer system in the town and neighbouring localities impossible. Simultaneously with the process of modernising the sewage treatment plant up to capacity of 20 500 m³ of sewage per day, Jaroslaw will realise investments connected with the building of the sewer system. The project will contribute to the resolution of environmental protection problems as regards water and wastewater management by the end of 2003. The introduced investment of minimal financial resources will result in maximum ecological effects. Thanks to the modernisation of the existing sewage treatment plant favourable conditions for building the sewer system and connection to the system will be created for neighbouring villages. The project is part of a general strategic plan of technical infrastructural development, designed to serve the needs of inhabitants, companies and farms surrounding the city. Favourable conditions for entrepreneurial development will thus be created, reducing the gap in socio-economic development both inside and outside the region. Developed areas free for investments will accelerate growth in the service sector. Offering land with complete technical infrastructure, the region will be able to handle the problem of large surpluses of population from rural areas seeking other sources of income. This investment, besides improving the technical state of the infrastructure, will indirectly contribute to decreasing unemployment, reducing poverty and the tackling of negative demographic processes (migration, ageing of the society) in both Jaroslaw and neighbouring areas. The problems connected with water and wastewater management are also introduced in the Operational Programme for Podkarpackie voivodship, as an essential element of the general regional strategy in attaining the aims of regional cohesion in the long term. Development of the town – the first large municipal centre over Poland’s eastern border, which in future will become the EU border – will level out the differences from other regions of Poland and, in the longer term, from the regions of EU member countries. It is an indispensable element for winning investors, establishing new businesses, creating new jobs and diversifying the regional economic base. Realisation of the investment will also contribute to a significant improvement environmental condition. The project has not been submitted to the European Commission for ISPA funding.

3.2. Linked activities:
Within Phare 2000, project concerning environmental protection in Rzeszów is in preparation. Phare support within the project is 2 200 000 Euro.

3.3. Results:
Indicators of objectives
Enhancing investment attractiveness of the area through: improving the conditions for over 2000 existing companies; simplifying the establishment of 250 SMEs in production, service and the tourism sectors; creation of about 500 new work places directly connected with the project; creation of a further 1000 new work places indirectly connected with the project realisation. Improving natural environment through:
decline of BOD₅ below outlet point by 4% after 2 years (from 6,33 mg/l to 6,11 mg/l); decline of COD below outlet point by 1% after 2 years (from 45,5 mg/l to 45,23 mg/l); decline of total nitrogen below outlet point by 10% after 2 years (from 4,5 mg/l to 4,09 mg/l); decline of total phosphorus below outlet point by 12% after 2 years (from 0,30 mg/l to 0,26 mg/l); decline of total suspended solids below outlet point by 4% after 2 years (from 8,5 mg/l to 8,11 mg/l).

Indicators of results
Increased length of the sewer system from 34,8 to 48,7 km; Decrease of untreated sewage let out to the river San by 4500 m³/24h (from 22% to 0%); Better utilisation of existing waste water treatment plant (increase of WWTP capacity from 14,055 m³ per day to 20,500 m³ per day - for about 45%); Achievement of the EU standards for system of sewers and WWTP in line with the directive 91/271: BOD₅ = 15 mg/l O₂ / 95% of reduction, COD = 70 mg/l O₂ / 85% of reduction, Total suspended solids = 20 mg/l O₂ / 92% of reduction, Total nitrogen = 15 mg/l O₂ / 70% of reduction, Total phosphorus =
1.5 mg/l O₂ / 80% of reduction; Decline of pollution let out to the river San: Decline of BOD5 = 1547.6 t O₂ / year, Decline of COD = 2628.0 t O₂ / year, Decline of total suspended solids = 1606.0 t/year, Decline of total nitrogen 227.76t/year, Decline of total phosphorus = 38.0 t/year. The justification of presented indicators is described in the separate Annex 5.

3.4. Output:
The project aims at the modernisation of the sewage treatment plant to increase the sewage treatment capacity from 14,055 m³ per day to 20,500 m³ per day and to change the technology for the removal of biogenic compounds and sludges. Projects contains of:

- **mechanical part**: building of 2 sand-traps; modernisation of wide and narrow grating, sand separator, sewage cast point; modernisation of the 2 initial depositors including 1 rain water deposter.
- **biological part**: building of 1 secondary depositor, modernisation of the 3 secondary depositors, modernisation of the relapsing and excessive precipitate pumping station, creation of a fermenting facility.
- **precipitate part**: modernisation of the 1 Separated Fermentation Chamber (WKF) together with operational building and gravity densifier, building of collector of the fermented precipitate, building of precipitate densification and dewatering station with biological filter and the place for precipitate storage, preparing tele-technical network together with pumping stations, modernisation of the energetic system, implementation of Control and Measurement Appliances and Automatics (AKPiA) for the whole object, building of additional infrastructure.

3.5. Inputs:
Public and gmina funds are to be utilised in project implementation. The total cost is estimated as 5,000,000 EUR, is broken down as follows:

- 2,897,000 EUR for plant and mechanical installation
- 238,000 EUR for the biological equipment
- 1,615,000 EUR for the precipitate processing sector
- 250,000 EUR for hiring of supervising engineer

4. Institutional Framework
The Beneficiary of the project is Jaroslaw Town. The Employer – Jaroslaw Town. Supervising engineer will be appointed within tender procedure. Investment owner after project realisation - Jaroslaw Town. The investment will be conducted in compliance with the Decentralised Implementation System regulations – “Practical Guide to Phare, Ispa & Sapard contract procedures”. The project implementation will not result in any changes in the institutional framework described above.

5. Budget

<table>
<thead>
<tr>
<th>Phare Support</th>
<th>Phare Support</th>
<th>Institution Support</th>
<th>Total Phare</th>
<th>National Co-financing</th>
<th>IFIs</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project</td>
<td>2 000 000</td>
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<td>Total</td>
<td>2 000 000</td>
<td>2 000 000</td>
<td>3 000 000</td>
<td>5 000 000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Polish Co-financing will be available and includes 250 000 – costs of hiring of supervising engineer.

6. Implementation Arrangements

6.1. Implementing Agency:
PAO: Vice - Minister in the Ministry of Regional Development and Construction
Wspolna 4 St., 00-926 Warsaw, phone: + 48 22 661 91 19, fax: + 48 22 661 91 45
Implementing Agency: Polish Agency for Regional Development, Zurawia 4a St., 00-503 Warsaw, Phone:+48 22 629 28 88, Fax: + 48 22 627 22 46

6.2. Twining:
not applicable

6.3. Non-standard aspects:
Not applicable. DIS regulations of the – “Practical Guide to Phare, Ispa & Sapard contract procedures” will be closely followed.

6.4. Contracts:
The total value of the project is 5MEuro. The project will be implemented under works contract 4.75MEURO, including PHARE resources 2MEURO. Additionally the contract with Engineer which total value is 0.25MEUR financed by Polish side will be signed.
7. Implementation Schedule
7.1. Start of tendering/call for proposals:
IV quarter 2001 – preparing tender documentation
I quarter 2002 – tendering and selection of contractor
7.2. Start of project activity: II quarter 2002
7.3. Project Completion: IV quarter 2003

8. Equal Opportunities
The procedures used in project implementation will guarantee equal opportunities for all interested parties and private persons, regardless of their sex, race and nationality. The ratio of men to women in the employment structure will be based on the standards used in the EU as regards EOE (Equal Opportunity of Employment). In addition, special regulations guaranteeing equal access to activities, employment and other profits resulting from project implementation will be applied. During the whole project the share of both sexes in the implementation process will be examined.

9. Environment
Krakow Technical University prepared an environmental impact assessment in 1999. The report states that the planned investment is environmentally friendly, resulting in an improvement in the quality of surface and sub-surface water. According to the report, the sewage treatment plant will not exceed permissible levels for sewage concentration, air pollution, noise or odour. The environmental impact assessment is in accord with EU Directive 85/337 as amended by 97/11. The sewage collection systems will be linked to the sewage treatment plant achieving the discharge limits of Directive of Directive 91/271 as amended by 98/15. The comparison analysis of the level of pollutants let out from the existing plant, appropriate level of pollutants after completion of the project and requirements as stated in Directives is presented in Annex 7. The EIA is available at the beneficiary’s office.

10. Rates of return
The feasibility study, undertaking economic and financial analyses has been prepared by Rzeszów Regional Development Agency and is available at the beneficiary’s office. Analysis of the feasibility study indicates that the project is effective, taking into consideration all the assumptions; the NPV is estimated at 7 426 154 PLN, the ENPV is 12 164 189 PLN, the IRR is 16% and the ERR 18%.

11. Investment criteria
11.1. Catalytic effect:
Phare support will be conducive to achieving economic and social cohesion goals in the Podkarpackie voivodship, which otherwise could be attained only after a much more extended period of time and on a more modest and less efficient scale.

11.2. Co-financing:
The project is co-financed by the Polish partners.

11.3. Additionality:
The Phare project is not displacing other financing sources, especially from the private sector and IFI system, it is co-financing identified priorities and not taking the place of national resources.

11.4. Project readiness and Size:
The investment possesses all the necessary technical documentation including construction designs and valid building permission

11.5. Sustainability:
The project will contribute to the long-term sustainable development of the region, as described in the Podkarpackie voivodship Operational Programme. The investment is sustainable and does not demand further expenditure.

11.6. Compliance with state aid provisions:
All aspects of the project will be developed with respect to the state aids provisions of the Europe Agreement.

11.7. Contribution to National Development Plan:
The project is in line with the National Development Plan and as such will contribute to increase of economic and social cohesion of the country and region.

12. Conditionality and sequencing
Co-funding of specific activities will be conditional on:

- co-financing of project by the beneficiary;
- maintaining timetable set in the programme;
- appropriate environmental impact assessments and feasibility studies conducted and accepted by the start of project implementation;
- obtaining building permission before the start of tendering;
- all tendering, contracting, reporting and monitoring conditions met;
- selecting contractor enable for proper realisation of works.

**Benchmarks:**

- Financing memorandum signed by end of 2001
- Preparation of tender documentation by IV quarter 2001
- Beneficiary contracts project activities by II quarter 2002
**Annex 1: Logframe matrix for project**

<table>
<thead>
<tr>
<th>Wider objective</th>
<th>Indicators of Achievement</th>
<th>Sources of information</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
</table>
| Creating conditions designed for increasing socio-economic cohesion in Podkarpackie Province and for strengthening region competitiveness, counteracting its marginalisation, and through all this creating favourable conditions for sustainable development. | - increase of regional GDP per capita  
- decrease of unemployment rate | Main Statistical Office | Continuing development of national economy; implementation of active forms of combating unemployment |

**Immediate Objectives**

<table>
<thead>
<tr>
<th>Indicators of Achievement</th>
<th>Sources of information</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving the conditions for over 2000 existing companies; Establishment of 250 SMEs in production, service and the tourism sectors after 2 years; 500 new work places directly connected with the project after 2 years; 1000 new work places indirectly connected with the project realisation after 2 years; Decline of BOD5 below outlet point by 4% after 2 years (from 6.33 mg/l to 6.11 mg/l); Decline of COD below outlet point by 1% after 2 years (from 45.5 mg/l to 45.23 mg/l); Decline of total nitrogen below outlet point by 10% after 2 years (from 4.5 mg/l to 4.09 mg/l); Decline of total phosphorus below outlet point by 12% after 2 years (from 0.30 mg/l to 0.26 mg/l); Decline of total suspended solids below outlet point by 4% after 2 years (from 8.5 mg/l to 8.11 mg/l)</td>
<td>Statistical data; evaluation reports; environmental services data; municipality data</td>
<td>New firm growth tendencies estimated on evidences provided in the communities’ offices; Present average employment in the existing firms; New work places growth tendencies estimated on Statistical Office data; Firms real interest on grounds and objects for investment Region population interest on tourism The mechanical-biological utilisation method on the basis of active sediment supporting by chemical precipitate of phosphorus let for fulfilling the sewage treatment parameters</td>
</tr>
</tbody>
</table>

**Results/Outputs**

<table>
<thead>
<tr>
<th>Indicators of Achievement</th>
<th>Sources of information</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase of the sewer system from 34.8 to 48.7 km; Decrease of untreated sewage by 4500 m³/24h; Decrease of untreated sewage from 22% to 0%; Increase of WWTP capacity from 14,055 m³ per day to 20,500 m³ per day (for about 45%); Physical-chemical values of treated sewage in line with the directive 91/271: BOD₅ = 15 mg/l O₂ / 95% of reduction; COD = 70 mg/l / l O₂ / 85% of reduction; Total suspended solids = 20 mg/l / l O₂ / 92% of reduction; Total nitrogen = 15 mg/l / l O₂ / 70% of reduction; Total phosphorus = 1.5 mg/l / l O₂ / 80% of reduction; Decline of BOD₅ = 1547.6 t O₂ / year; Decline of COD = 2628.0 t O₂ / year ; Decline of total suspended solids = 1606.0 t/year; Decline of total nitrogen 227.76/ year; Decline of total phosphorus = 38.0 t/year</td>
<td>Statistical data; Experts reports; WWTP data</td>
<td>Fulfilling the necessary conditions connected with contracts, periodic reports and monitoring reports; Co-financing the project by beneficent and other private sources; Fulfilling the work schedule established in the programme</td>
</tr>
</tbody>
</table>

**Activities/ Inputs**

Modernisation of waste water treatment plant. Financial input: 4,750,000 EURO - 2,897,000 EURO for plant and mechanical installation; 238,000 EURO for the biological equipment; 1,615,000 EURO for the precipitate processing sector; including 2,000,000 EUR from Phare
### Annex 2-4: Cumulative implementation, contracting and disbursement schedule

**Environmental protection infrastructure in Jaroslaw**

**Planning period:** 2002 – 2004

**Date of drafting:** December 2000

**Budget cost estimate Phare in MEURO**

<table>
<thead>
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<td>I</td>
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<td>2,00</td>
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</tbody>
</table>

Legend: D = design of sub-project / C = tendering and contracting / I = contact implementation and payment
Annex 5 Justification of the indicators in the project „Creating favourable conditions for entrepreneurial development through the investment in environmental protection infrastructure in Jaroslaw”

While determining the project indicators of achievement, data from statistical offices, cities and communes influenced by project were used, as well as experts’ reports and technical documentation of the planned investment.

Following conditions were taken into consideration:

- Number of newly established enterprises as a result of realisation of the project were estimated on the basis of:
  - The level of investors interest in new areas devoted for development of economic activity and building new firms (the average number of people interested in purchase of the ground for economic activity in regions influenced by the project is 20 per year)
  - Data according to which about 640 ha of grounds devoted for economic activity is not equipped with the sewage system
  - Perspectives of the SMEs development

- The number of kept and newly created work places were estimated on the basis of:
  - Data given above,
  - Registered unemployment level (1995-3007, 1998-2400)
  - Analyses of the necessary maintenance time consumption and indispensable number of regular employees needed for correct exploitation of sewage treatment plant after extension
  - Analyses of work places necessary for realisation of investment

- Natural environment improvement effects based on technical documentation of planned extension:
  - BOD5 – reduction about 95%
  - Total nitrogen general – reduction about 70%
  - Total phosphorus – reduction about 80%
  - Total suspended solids – reduction about 92%
  - Decrease of the amount of not cleaned sewage – about 22%
  - Making possible building further 13, 930 km of the sewage system
  - Covering 100% of habitable grounds in Jaroslaw by sewage system

Having these data, it was possible to plan realistic effects of the project. One should remember that location of the investment on the terrain characterised by increased economic activity (according to statistical data and the "Strategy of the Podkarpackie Voivodship for 2000-2006") additionally enlarges reality of the planned indicators. Assuring full technical infrastructure accessibility is a necessary condition in this aspect. There is a distinct dependence between dynamics of employment or creations of new firms and accessibility of the basic elements of technical infrastructure. Additionally, the near distance to existing and planned communication systems will favourably influence the realisation of the stated indicators of achievement.
Annex 6 Summary of the feasibility study for the project “Creating favourable conditions for entrepreneurial development through the investment in environmental protection infrastructure in Jaroslaw”.

1. The project is located in the south-eastern area of Podkarpackie voivodship, specifically within the Jaroslaw administrative district (poviat).

2. Jaroslaw is one of the largest towns in the voivodship and one which plays a strategic role in the regional economy. The town is located in an area of intense socio-economic activity that spreads from the west to the east and along the main trade and communications routes leading to Lvov and the Black Sea.

3. Developing and improving the technical infrastructure of the town will create development opportunities in industry, local economic development, transport and tourism.

4. The main beneficiary will be the Jaroslaw Town Council (local authority) who will be responsible for implementing the project.

5. Currently the sewage treatment system, in Jaroslaw is unable to meet the demands of the community. Furthermore it fails to conform to environmental protection requirements in respect of the disposal of treated sewage. This barrier prevents the development of the town and surrounding villages.

6. Modernising and extending the sewage system and supporting treatment works will enable mains sewerage to be supplied to all parts of the town and surrounding villages.

7. The objective of the project is to encourage investment into the area and assist in the development of local tourism through the provision of modern technical infrastructure.

8. 60% of the costs of the project will be covered by the local authority, the remaining costs will be supplied from external sources over an agreed period of time.

9. From the schedule of investment and the sources of financing represented, implementing the project is feasible.

10. The proposed project already possesses the necessary technical documentation and local authority permissions.

11. Extending and modernising the mains sewage system will have a positive impact upon local environmental conditions. It will lead to their improvement.

12. The costs of implementing the project are fixed on the grounds of the costs of particular elements of the whole system.

13. The estimated cost of the project is 5,000,000 EURO.

14. The project budget has been drawn up utilising financial analyses supplied by the water and sewage treatment provider.

15. The calculation was prepared on the basis of the cost of treating of treating 1m³ of liquid waste, in Jaroslaw.

16. After analysis of the costs and receipts resulting from implementation, the individual costs will remain constant. This calculation however does not take into account inflation. In reality, over the period of the economic analysis, the real cost of treating 1m³ of liquid waste will fall.

17. Analysis of the feasibility study indicates that the project is effective, taking into consideration all the assumptions; the NPV is estimated at 7 426 154 PLN, the ENPV is 12 164 189 PLN, IRR is 16%, ERR is 18 %.

18. The project, to construct a mains sewage collection system in Jaroslaw conforms to the requirements placed on this type of project within the framework of EU programmes.
Annex 7 Summary of the environmental impact assessment for the project “Creating favourable conditions for entrepreneurial development through the investment in environmental protection infrastructure in Jaroslaw”.

1. The project aims to modernise and extend the waste water treatment plant in Jaroslaw. It will ensure greater protection for users, in accordance with the existing national and EU legislation and the published legislative amendments. The extension and modernisation of the sewage treatment plant will improve sanitary conditions in the region as well as extend the existing network.

2. The project extends and modernises the existing plant. It envisages minimal impact on all elements of the environment. It will also reduce the level of pollution. Any environmental impact will be limited to the area covered by the treatment plant, i.e. the land to which the investor possesses a legal right.

3. The modernisation of the sewage refinery will ensure that all by-products produced will be suitable for ordinary disposal or agricultural use, suspended solids will fulfill EU norms, described in Directive No 86/278. This will result from the introduction of sanitary methods for treating raw sewage. Initially the processed waste will be used to reclaim refinery land recovered after the removal of affected top soil.

4. The solution proposed by the project is correct and conform to local and regional planning conditions, which have already been granted.

5. The operational date of the modernised refinery has to be determined between the designer and specialists experienced in the removal of chemical substances.

6. Refinery staff should be trained in the new work processes before the commissioning of the new plant. The impact of the treatment plant on the environment depends, to a large extent, upon maintaining high standards in terms of operation and hygiene.

7. Daily procedures will be introduced to analyse the raw sewage treated as well as analysing the active sediment, on at least a daily basis. The procedures will be prepared prior to the functioning of the extended plant and will cover the range and frequency of operation.

8. Should it be discovered that there is a decline in the effectiveness of treating the raw sewage i.e. a decline in the quality of outflow and structure of waste to a value in the sediment index greater than 150 ml/g per part, then the opinion of a specialist on active sediment will be sought.

9. The processed waste will need to be systematically removed from the plant and transported to an authorised waste disposal site that will confirm acceptance.

10. Users of sewers have to conform to best practice in the disposal of waste products i.e. using special sites for the disposal of oil based products and non-organic materials. In particular the following will be prevented from entering the modified system:
- rain water,
- industrial matter of a biochemical nature likely to jeopardise the processing of waste
- sediments from old reservoirs or sewage treatment plants.

The standard of waste flowing into the sewers will need to conform to the ministerial decision dated 19. 05. 1999, ‘Conditions for the Introduction of Sewage to Local Authority Sewage Systems. The influence of sewage treatment on the environment will be limited to the area of investment. Furthermore all emissions will conform to EU Directive 91/271, completed by EU Directive 98/15.

Norms connected with utilised liquid waste

<table>
<thead>
<tr>
<th>Reached norms</th>
<th>Planned norms</th>
<th>EU Directive 91/271 (98/15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- BOD5 = 43,2 mg/l O2</td>
<td>- BOD5 = 15 mg/l O2</td>
<td>- BOD5 = 25 mg/l O2</td>
</tr>
<tr>
<td>- COD = 76,5 mg/l O2</td>
<td>- COD = 70.0 mg/l O2</td>
<td>- COD = 125 mg/l O2</td>
</tr>
<tr>
<td>- total suspended solids = 42,3 mg/l</td>
<td>- total suspended solids = 20 mg/l</td>
<td>- total suspended solids = 35 mg/l</td>
</tr>
<tr>
<td>- total nitrogen = 42 mg/l N</td>
<td>- total nitrogen = 15 mg/l N</td>
<td>- total nitrogen = 15 mg/l N</td>
</tr>
<tr>
<td>- total phosphorus = 5,6 mg/l P</td>
<td>- total phosphorus = 1,5 mg/l P</td>
<td>- total phosphorus = 2 mg/l P</td>
</tr>
</tbody>
</table>

The Environment Impact Assessment has been carried out in line with the Directive 85/337 as amended by 97/11.