

Greater LYON

Sustainable development and water management



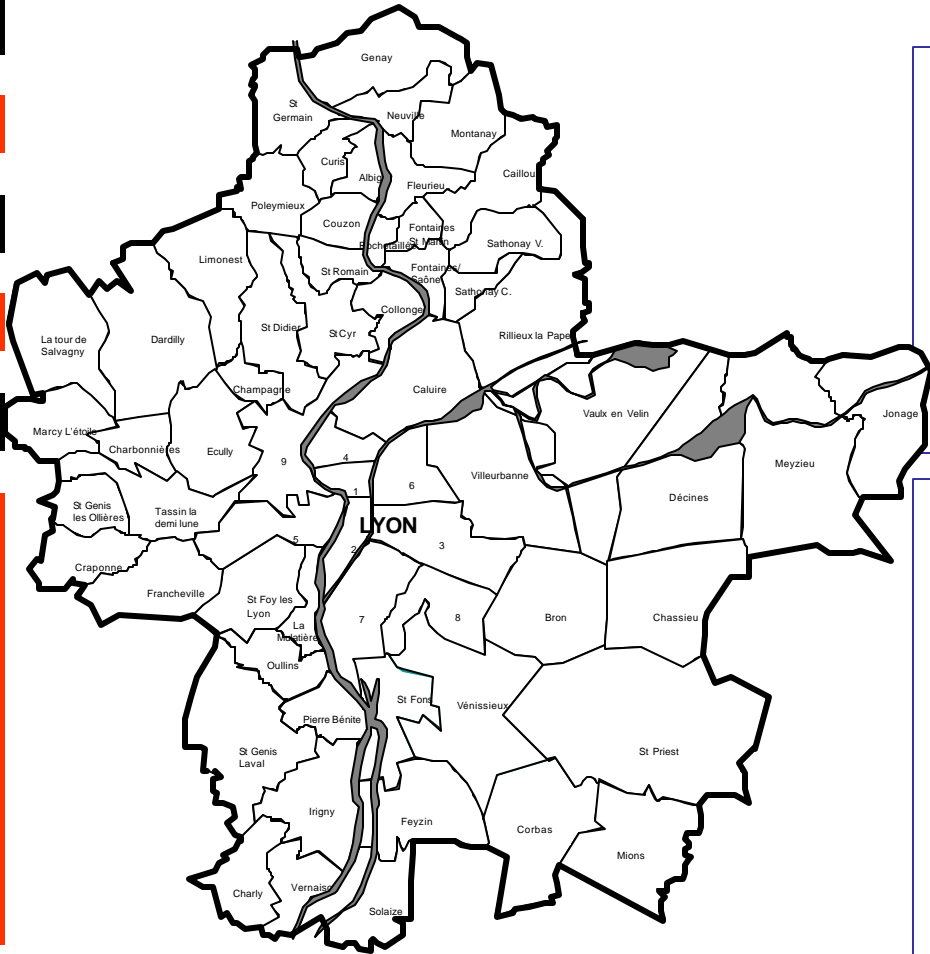
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Water direction

Engineering department

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Lyon Urban Community : Greater Lyon

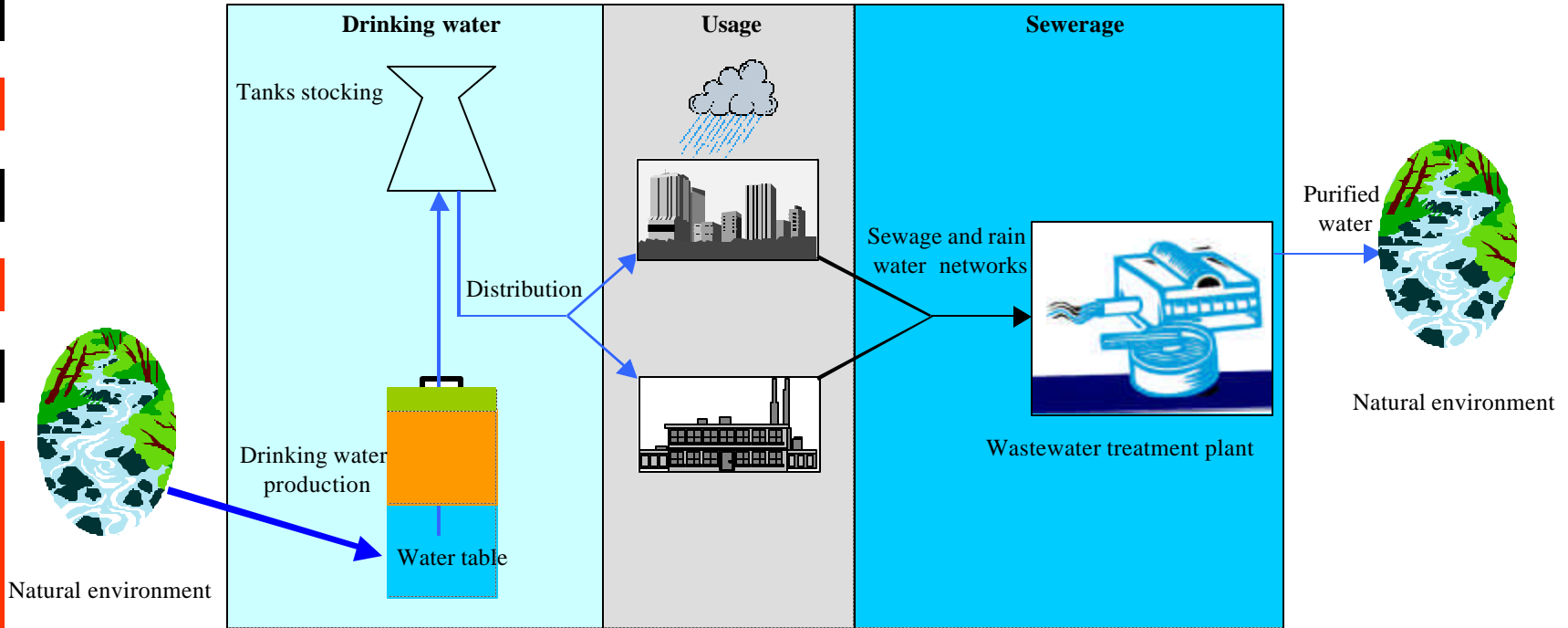


- 55 communes
- 1 250 000 inhabitants
- 50 000 hectares

- Drinking water and sewerage
- Cleanliness
- Roads department
- Urban development
- Public transport
- ...



Water Direction



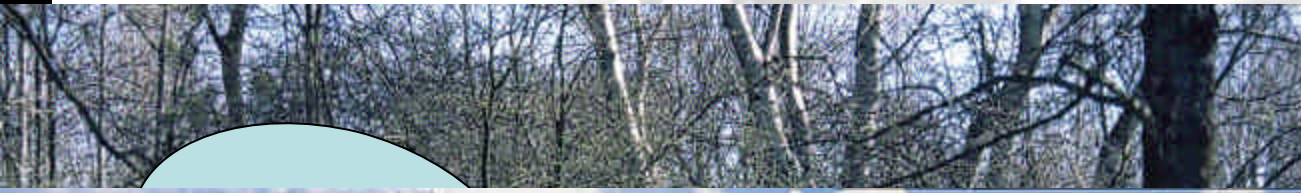
- Ensuring the **best service** and the **best price**
- In **precise, complex, and constant evolution** statutory bounds

Responsible for the global urban water cycle

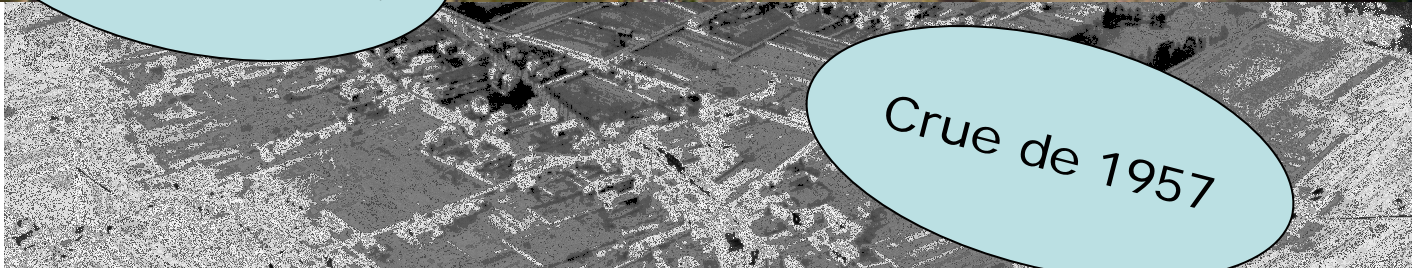


The stakes of water resource

- The main resource located in the middle of the urban community
- Urban development pressure
- Existing economic activity : hydroelectricity, extraction of gravels, agriculture
- Flood risk from the rivers and urbanization
- Preservation of the natural landscape and public demand for more green space
- A network heritage very important and old and a water regulation always more exigent



> 4 millions
de visiteurs par an



Crue de 1957

Improvement of Lyon's waste water treatment plant

Old Pierre Benite Waste Water Treatment Plant



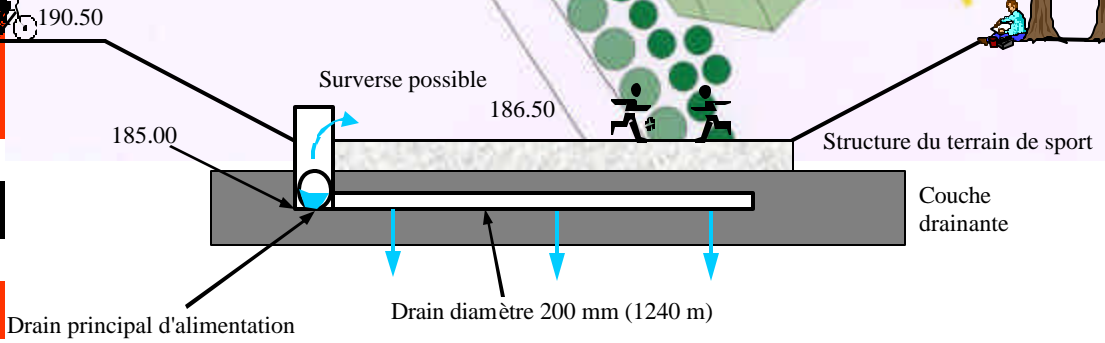
New « Pierre Benite » Waste Water Treatment Plant

Storm water management



- To promote non structural technics (BMPs)
- Pollution removal
- Infiltration
- Open to public and multi-functionnality for pedagogy
- Biodiversity
- Reversibility

Porte des alpes – St Priest



Definition of sustainable objectives for water management

- To protect groundwater resources and increase environment quality
- To reduce risk of flooding
- To reduce investment and operation costs of sewerage works
- To integrate storm water in the city

Different working scales

- Planning scale
 - Global vision of the stakes of water cycle at the Greater Lyon scale and even more (catchment area of the Rhône river)
 - Long term vision to define sustainable goals
 - Definition of the means to put down the goals in the water management (design, building, maintenance)
- Project Scale
 - Application of the goals on the project scale after having made a local diagnosis
 - Definition of the means that can be used in this specific case

3 projects, 3 sustainable approaches for water management

- Porte des Alpes 1992
 - strategic site for economic development
- Lyon Confluence 1998
 - city center site over brownfields
- Carré de Soie 2003
 - suburbs site over brownfields and an old public garden

1 – Porte des alpes

- Water management as an important constraint from the early stages of the project and totally integrated into urban plan
- Very high environmental goals
- Strong coordination between the different services during the project
- Determination of all the maintenance operations at the same time than the design stage

1 - Porte des alpes - feedback

- Sustainability of the project in the coordination: to be able to have an holistic view of the project and bring our specific means.
- Very high politic intentions and a complete and very strong urban project. But now, who should keep the memory ?
- Sustainable analysis made after the end of the design. Result?

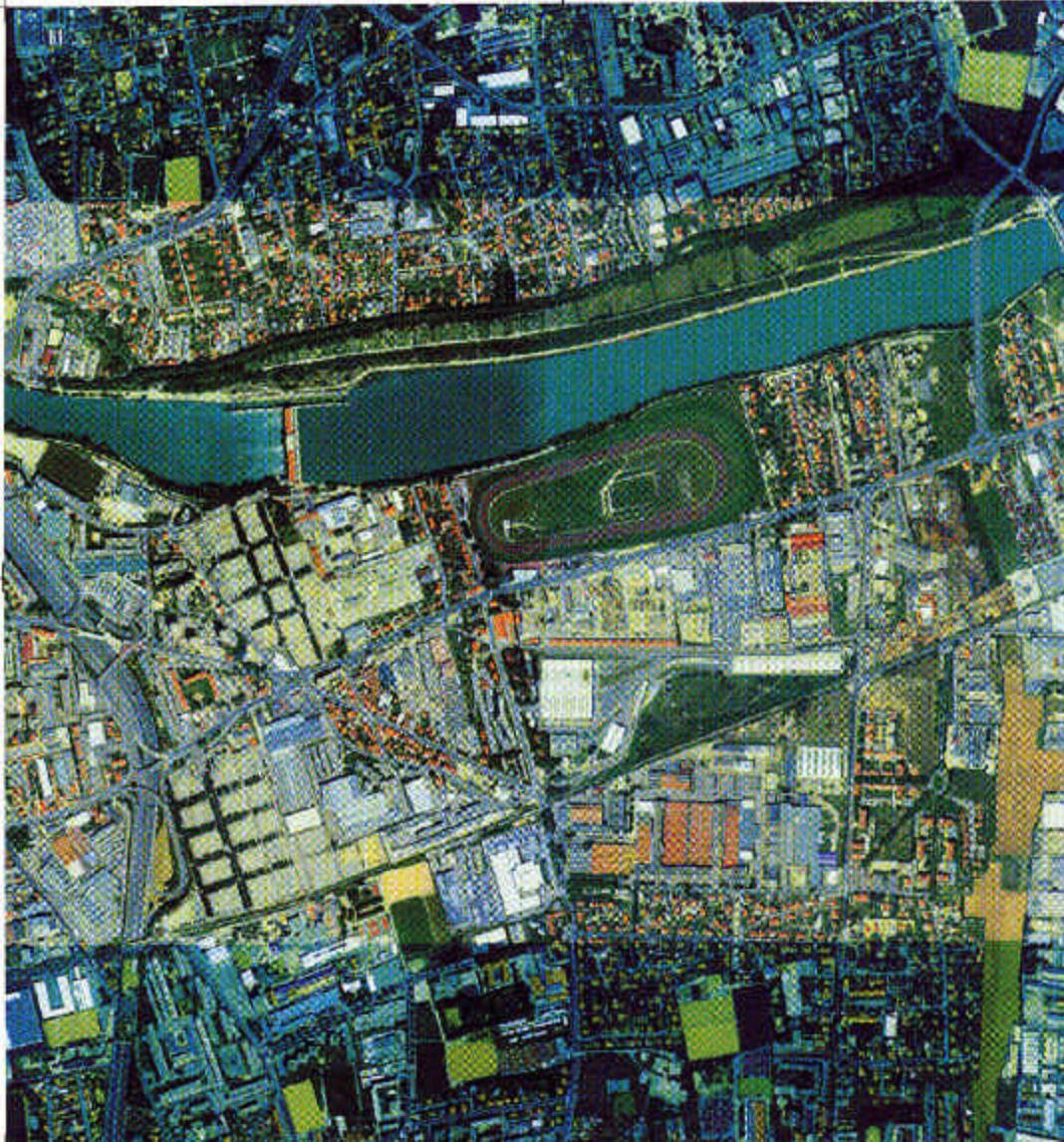
2 – Lyon Confluence

- Urban plan at first and sustainability as a strong objective
- Diagnosis of the sewage network and proposition of sustainable objectives and means.
- a grid to choose the more sustainable network design but no exchange with other services
- Sustainable analysis made 2 years later

2- Lyon Confluence - feedback

- A first grid for decision makers which can be re-used for the next network design
- High politic intention but a very large panel of actors and true difficulties to coordinate them
- No holistic view of the water project and no share of the means. we need to success the project
- Sustainable analysis as a catalog of “sustainable” techniques but no analysis of the global coherence
- No maintenance plan for the moment

3 - Carré de Soie – Vaulx en Velin



3 - Carré de Soie

- At the beginning of the urban project, diagnosis of the network system in the global catchment area of the future waste water treatment plant
- Exchange with the other departments (urban, road, cleanliness, economic dev.) to fix the criteria of choice for the design
- A grid to choose the best network project
- Active participation in the design of the urban project and the sustainable analysis

3 – Carré de soie - feedback

- A beginning of an holistic view of the project to make the best first choice for water management
- An urban plan build step by step to integrate all the actors. First sustainable analysis as a catalog of ideas and means but with a global philosophy
- Specific charter for water management to keep the memory of the choices and recommendations for the future projects.

Conclusion

- Sustainable design or sustainable approach ?
- Grid for decision makers or evaluation ?
- How to keep the memory of a project without refrain new ideas, new design ?
- How to mix conceptual approach of sustainability and operational approach of the project ?