

# CONSTRUCTED WETLAND SYSTEM FOR TREATMENT OF WASTEWATER OF THE "RELAIS CERTOSA" HOTEL



## ORIGINAL NEED



The plant is a part of the FP5 demonstration project co-financed by the European Community SWAMP (*Sustainable Water Management and Water Purification in Tourism Facilities*). Goal of the SWAMP project is to implement efficient and sustainable constructed wetland treatments of wastewater for tourism facilities in isolated places and rural areas with 10 to 1000 person equivalent, enhancing the reuse of treated water and a rationale management of water resource.



## PARTNERS

Partners of the projects are: Austria (Oekologisches Project, Graz ; Enhardt & Partners, Graz ; AEE, Gleisdorf); Italia (Ambiente Italia s.r.l., Milano; Iridra s.r.l, Firenze ); Germania (Target, Hannover ; AWA, Uelzen); Lettonia ( Sia Aprite, Cesis; Carl Bro, Riga ).

### LOCATION

Settlement of Certosa  
Municipality of Florence  
Tuscany  
Italy

### COMMITTANT

Hotel Relais Certosa

### NUMBER OF PERSON EQUIVALENT

140

### WASTEWATER TYPOLOGY

Civil

### PLANT TYPOLOGY

SFS-h (1 basins) + SFS-v (2 basins)

### AREA (M2)

total 340 (160 + 180)

### YEAR OF REALIZATION

2001

## CAPACITY

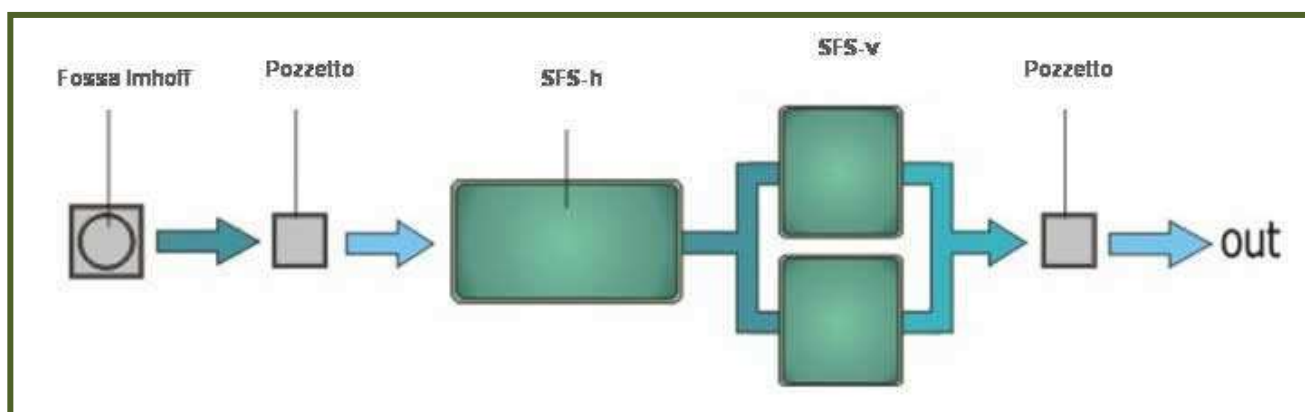
Criteria adopted in design of the plant for the Relais Certosa Hotel come from the following indications:

- estimate of tourism fluxes during the different periods of the year and considering possible expansions, according to what declared by owners of the Hotel;
- theoretical estimate of the values of flows and concentrations of some wastewater parameters;
- surveying on the field;
- climatological and phyto-climatological evaluations of the area.

**The wastewater produced is of the civil type, so in design reference values were used for the prevision of the quantities to be treated and the chemical and microbial characteristics (a value of 60 grBOD 5 /ae.die per person equivalent; average hydric furniture pro capita of 200 lt/ae.die)**



Data relative to the amount of users were given by the owners of the Hotel: the treatment plant is dimensioned to treat wastewater from the bedrooms, which have 140 beds. Considered that the Hotel is full almost all the year, we have chosen to design the plant on a maximum number of users of 140 P.E.



Scheme of the plant

