



ORIGINAL NEED

The "FATTORIA BAGGIOLINO" farmholiday site is located in the hills about 25 km from Florence , Italy . The following data about its characteristics are already available.



The three buildings, already restored and operating, are equipped with one Imhoff tank and two other separate septic tanks, all discharging to soil by sub-irrigation.

Sea level:	320 m.s.l.m.
Season:	April - October
Capacity:	accommodation: 24 beds permanent: 5-6 persons
Water consumption:	(assessment of consumption over the last three years) maximum 7,5 m ³ /d average 4,0 m ³ /d minimum 2,5 m ³ /d
Wastewater production:	30 p.e. approx.

LOCATION

Municipality of Scandicci
Province of Florence
Tuscany
Italy

COMMITTANT

Farmholiday "Fattoria
Baggiolino"

NUMBER OF PERSON EQUIVALENT

30

WASTEWATER TYPOLOGY

Civil

PLANT TYPOLOGY

HF

AREA (M2)

96

YEAR OF REALIZATION

2002



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

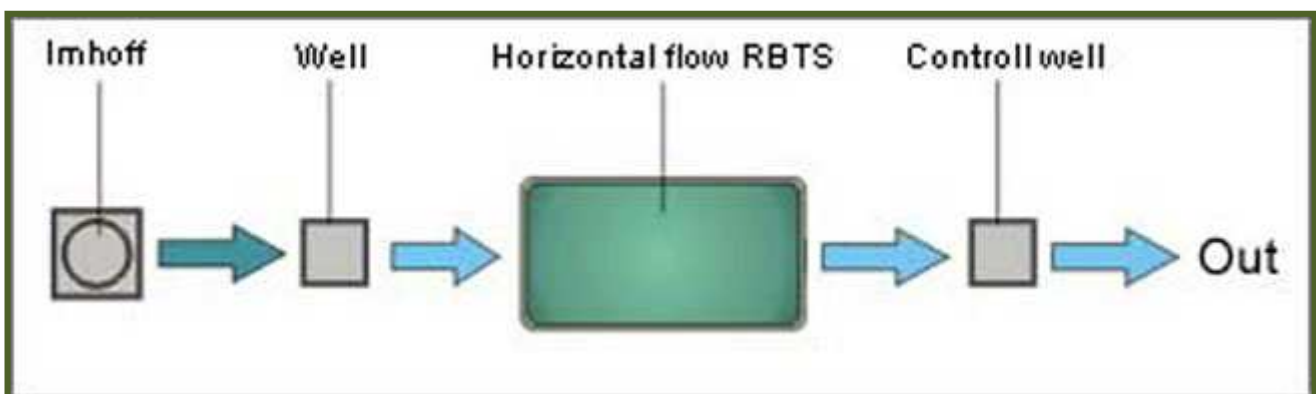
treatment of wastewater for tourism facilities in isolated places and rural areas with 10 to 1000 person equivalent, enhancing the reuse of treated water and a rationale management of water resource. Partners of the projects are: Austria (Oekologisches Project, Graz ; Enhardt & Partners, Graz ; AEE, 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).

The constructed wetland has been designed in order to have minimal maintenance and management effort.

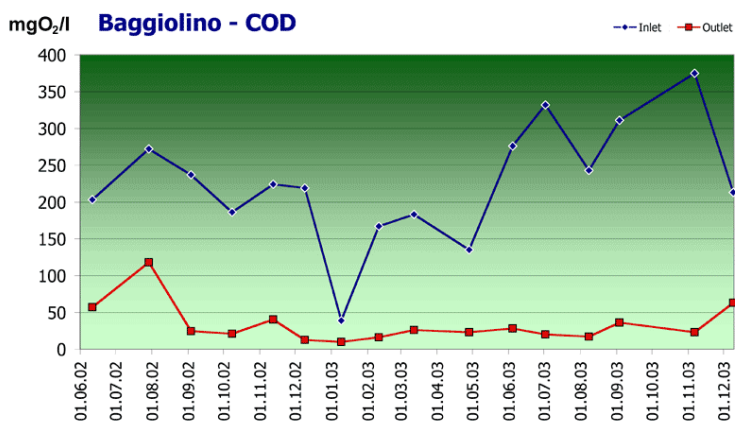


DESCRIPTION

Our proposal to the owner is to combine all the three effluent lines from the existing primary treatments and to treat the wastewater by an horizontal subsurface flow constructed wetland, composed of a single bed. We are still discussing with the owner the options for using water saving devices. There is no option available to separate grey and black water nor to reuse treated effluents.

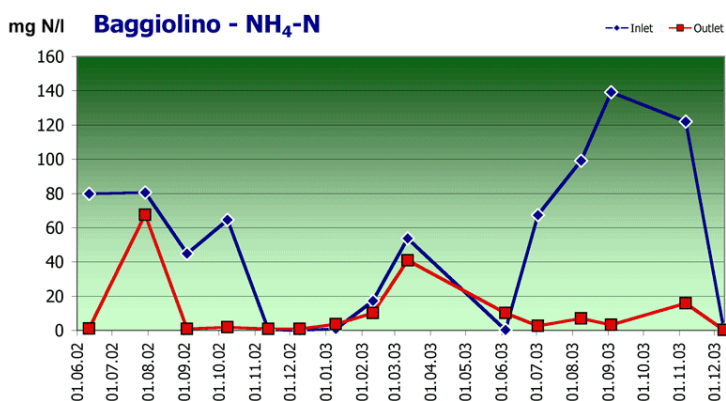


Scheme of the plant



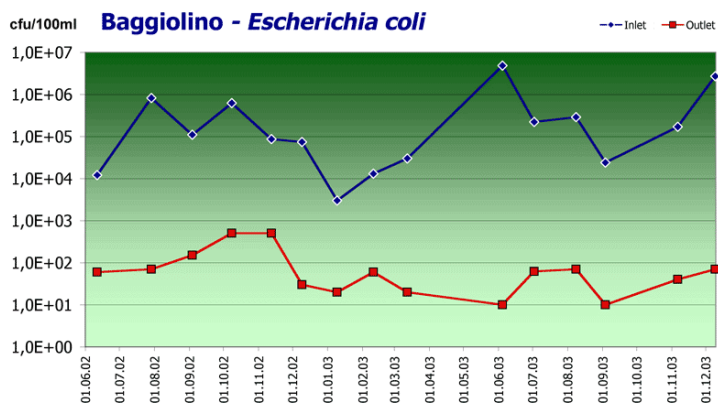
COD (mg O₂/l)

Indicator commonly used to monitor organic matter content in wastewater.



Ammonia NH₄-N (mg N/l)

A pollutant with a high impact on the freshwater environment. It has also a low degradation rate.



Escherichia coli (cfu/100ml)

Freshwater contamination by bacteria reduces hygienic water quality and could affect potential human uses. Constructed wetlands show generally very high reduction performances (around 99,9%).