

CONSTRUCTED WETLANDS SYSTEM FOR WASTEWATER TREATMENT OF THE RECEPTIONS COMPLEX "LUNA NUOVA"



ORIGINAL NEED

The project concerns the construction of a sewage treatment plant to serve a complex reception in the town of Sternatia (LE).

Taking into account the need to have the availability of water resource in the spring and summer seasons for the irrigation of green areas of the complex, in agreement with the client has processed a design solution that, in addition to solving the problem of the cleaning of waste, allows the recovery and reuse of a large volume of water.



By virtue of this necessity, according to recent guidelines of the European community in the conservation of water resources and "purification sustainable" and according to the recent Italian legislation on wastewater reuse (DL 185/2003) it was decided to build a constructed wetlands system, consisting of a first part of treatment in a subsurface flow (so as to avoid any problem of diffusion of bad odors or insects) and a final part with free flow, that allows the refinement of the purification and the accumulation of 'purified water.

LOCATION

Municipality of Sternatia
Province of Lecce
Italia

COMMITTANT

Luna Nuova S.r.l.

NUMBER OF PERSON EQUIVALENT

143

WASTEWATER TYPOLOGY

Civil

PLANT TYPOLOGY

SFS-h + SFS-v + SFS-h + FWS

AREA (M²)

Total 6080 (1000 + 1680 + 1800 + 1600)

YEAR OF REALIZATION

2004

DESCRIPTION

The installation is designed in such a way as to achieve a good environmental and architectural insertion, taking into account the needs of the structure under construction.

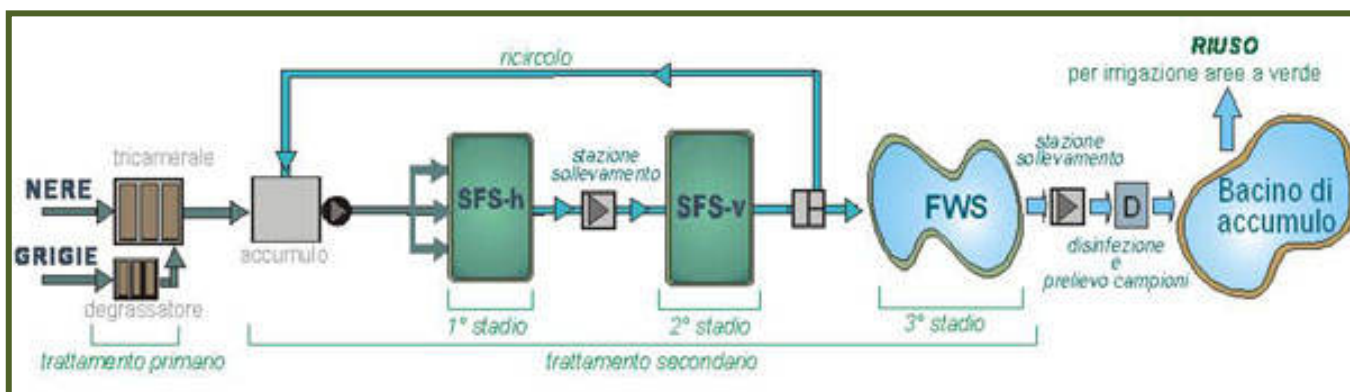
Based on the characteristics of the user, it has been assumed the function of the complex with the maximum user (900 people per day, equal to $30 \text{ m}^3/\text{g}$ of hydraulic load) for 5 times a week, obtaining a weekly production of discharges amounted to 150 m^3 .

The plant consists of:

- 1st stage: System SFS-h usable area 315 m^2
- 2nd stage: System SFS-v usable area 195 m^2
- 3rd stage: FWS system usable area 90 m^2



Through the insertion of a storage tank it is possible to distribute the treatment evenly on the seven days of the week and then sizing the implant on a smaller daily load, equal to $21.5 \text{ m}^3/\text{g}$, corresponding to 143 a.e. **The sewage treatment plant in question will be sized so for users up to 143 a.e..**



Block scheme of the plan