

CONSTRUCTED WETLAND TREATMENT PLANT AND BIOLOGICAL WASTEWATER PURIFICATION FOR INDUSTRIAL PRODUCTION PROCESS REUSE IN JESI



ORIGINAL NEED

The Jesi Municipality needed to increase the depuration capability from 15,000 to 60,000 p.e. and to reuse a part of the purified wastewater.



DESCRIPTION

The up-grading of the plant consists in two new compartments:

- a nitrification/denitrification technological sector compartments.
- a final Constructed wetland sector.

LOCATION

Municipality of Jesi
Province of Ancona
Marche
Italy

COMMITTANT

Municipality of Jesi

NUMBER OF PERSON EQUIVALENT

60.000

WASTEWATER TYPOLOGY

Civil

PLANT TYPOLOGY

Sedimentation basin + SFS-h +
FWS

AREA (M2)

60.000

COST

Around \$75.000

YEAR OF REALIZATION

2002

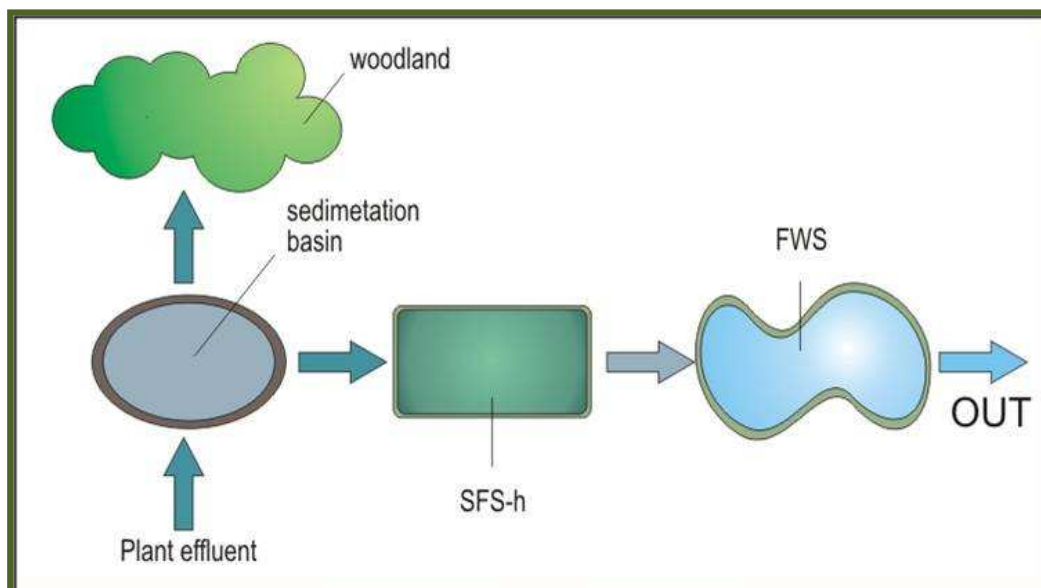
The CW sector is formed by a sedimentation basin, an horizontal subsurface flow stage (about 10,000 m²) and a free water system stage (about 50,000 m²).

The plant has been realized in a flood area and it has been designed as periodic flood proofed. Part of the treated water is provided to the near industrial area for reuse by a dual net pipe.

In the following scheme, basic data which are taken into account in the plant design have been reported.



	<i>Q</i> <i>m³/d</i>	<i>COD</i> <i>kg/d</i>	<i>N_{tot}</i> <i>kg/d</i>	<i>P_{tot}</i> <i>kg/d</i>	<i>TSS</i> <i>kg/d</i>
Average capacity	13.200	1650	198	39,60	462
Stormwater capacity	14.465	1188	143	29,00	333
	5.000	597	138	16,00	338
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Project capacity	19.465	1784	281	45,00	720



Scheme of the plant of Jesi

