eco-environmental and landscaping design of a waste water treatment plant in Villiers-saint-Frédéric (78) - France "Living in the canopy"



CLIENT	Inter-communal sanitation syndicate of the region of Neauphle le Château (SIARNC)
LOCATION	Villiers Saint Frédéric (78)
Projet	Desing concept, Architecture HQE [®] and landscaping
CONCEPTION	AQUALTER, BOUYGUES, TECH-
Production	FINA, BERIM, AR ARCHITECTES
area	2 000 m ²
COSt	20 000 000 €
Date	Competition 2017



Mass plan of the treatment plant, "Living in the Canopy"



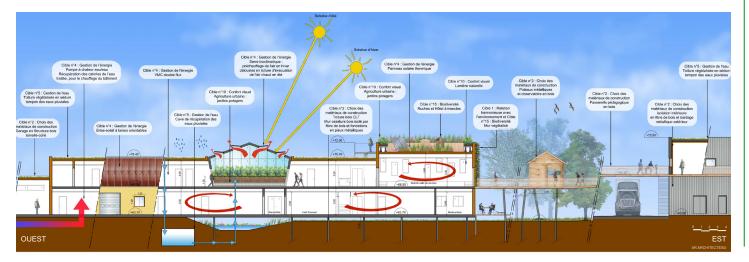
3D Perspective of the project integrated into its environment

The project's design aim was to create a perfect harmony between the existing green site and future industrial building. The operating building objectives was to cross the river "La Mauldre" and to create a very strong link into trees and nature; an if the building wad inhabiting nature "Living in the Canopy". The operating building was designed in a bioclimatic orientation. It is very well insulated and constructed with a wooden timber frame. The roofs are vegetated and the upper roof has nests for birds and hives for bees. A pedestrian educational pathway was designed for scholars to show awareness on environmental issues and biodiversity restoration in an industrial plant.





View on the entrance of the operating building from the public entry.



Section HQE®

HQe® targets

Target 1 : Harmonious relation between Building and its environment

Quality of outdoor spaces for users:

• The aim is to propose a treatment of the facades of the building by the use of **biodegradable materials**, such as **steel, gabion or wood**.

• Views on natural areas: green roofs, green wall and on river "Mauldre".

• Re-enhancement of the site's fauna and flora.

Target 2: Choice of integrated Products and Building Materials

• Metal cladding, wooden cladding, green wall, cross-laminated timber (CLT) roof, wood structure walls, Steel piles with recycled insulation with hamp and recycled cellulose.

Target 4: energy management

- Bioclimatic greenhouse
- Solar thermal panels
- Thermal insulation in wood fiber panels
- Water-water heat pump

Target 5: Water management

- Permeable green roofs are designed on the top of each building
- Hollow core slabs recovered by plants are designed on the roads.

• Rainwater is managed by plants and infiltrated into the soil.

Target 8 et 9 : Hygrothermal and acoustic comfort

• Thermal and acoustic comfort is guaranteed by the green roof and **wood fiber** insulation.