Eco-design of the House of Environnement in the Landfield of Sainte-Rose Guadeloupe (971)- France

Industrial site, HQE approach: Waste treatment

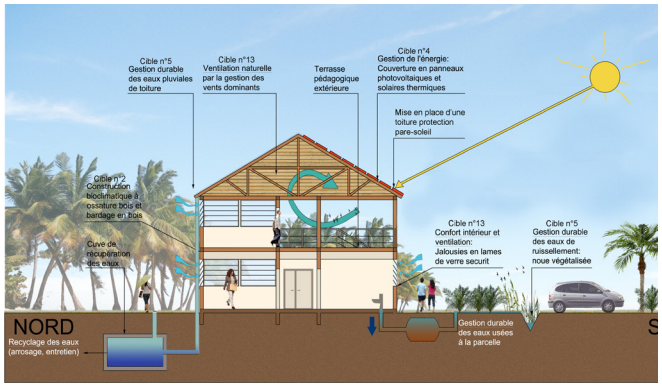
Client	SITA Espérance Suez Environnement
Location	Sainte-Rose, Guadeloupe
Project	Eco-design HQE®
Mission	Design concept and follow up mission, Architecture HQE® and landscaping
Designer	AR ARCHITECTES
Area	225m², plot 250 000m²
Cost	30 000 000 €
Date	From 2009 till 2011

View on the educational terrace

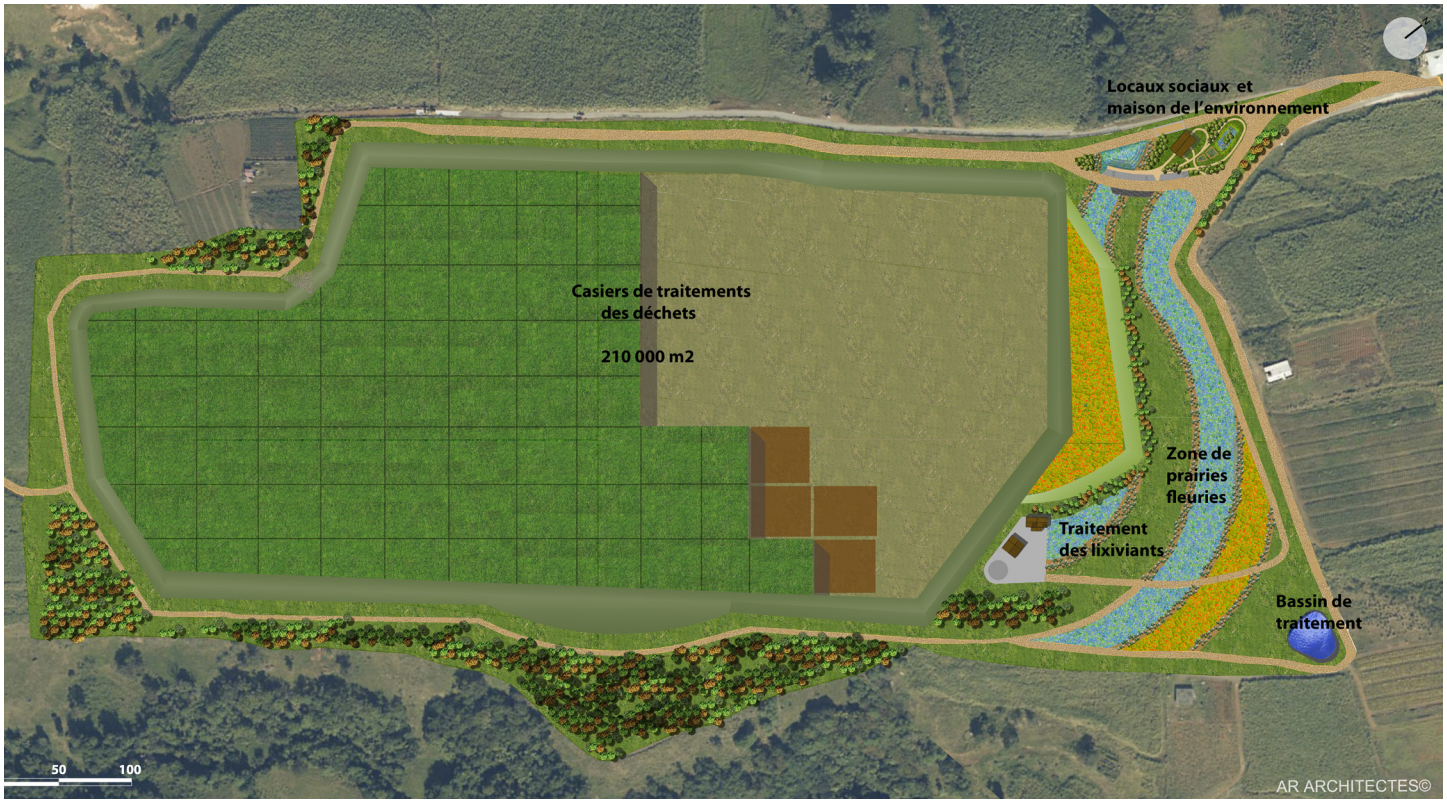
Perspective of the bioclimatic house of environment

The house of environnement frames are in wood with wood cladding and a galvanized steel roof, with solar panels and solar thermal panels. Landscaping, plant screens, reed beds, and wetlands are local species in harmony with the surrounding environment.
The project includes a private ground floor for administrative purposes and a level openned to the public with an educational room and a large wooden covered terrace overlooking the scenery, on the waste treatment plant and the natural rural area.

View of the house of environment



Section HQE©



Mass plan - Landfield 250 000 m²

HQE® targets

Target 1 : Harmonious relation between building and environment.

Good integration into the scenery via landscaping, plant screens, reed beds, and wetlands: local rustic plant species in harmony with the surrounding environment. The construction of a bioclimatic industrial-type building with modern design is adapted to the geographical situation.

Target 2 : Integrated choices of products, systems and procedure of construction

Use of biodegradable materials. Laminated wooden frame, robust and sound materials, renewable and recyclable, quick assembly, light weight structure enabling savings in foundations.

Target 4: Energy management

Bioclimatic and passive principle according to the Sun exposure and possible supplies of heat and cool air. Facing East-West to capture light and heat from the Sun while protecting oneself from overheating: adapting to local climate. Building is on two levels to optimize air circulation: wooden terrace on the upper floor, main areas have double exposure. Windows with shutters to keep out from the heat when the temperatures are very high.

	Classical building	Bioclimatic wooden frame building
Electricity used	171	58,8
Coefficient of conversion	180	180
Kg CO2/m²/year	30,78	10,60
Area m²	128	128
Tons of CO2/year	3,9	1,3

Board showing the CO2 footprint comparison between a classical building and a wooden bioclimatic building.