

Medical care center in the heart of the City of Planets in Maisons-Alfort

by [Yanis Boumbar](#) / 2022-06-09 00:00:00 / France / 1164 / FR



New Construction

Primary energy need :

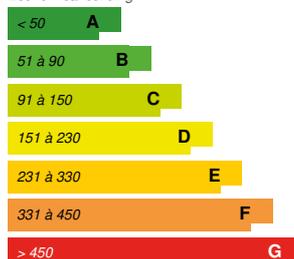
191 kWhep/m².an

(Calculation method : RT 2012)

ENERGY CONSUMPTION

Economical building

Building



Energy-intensive building

Building Type : Nursing home or Retirement home

Construction Year : 2017

Delivery year : 2020

Address 1 - street : 16 rue de Marne 94000 MAISONS-ALFORT , France

Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 7 250 m² SHON

Construction/refurbishment cost : 21 000 000 €

Cost/m2 : 2896.55 €/m²

Certifications :



Proposed by :

méandre etc
architecture & urbanisme bioclimatiques

General information

The land allocated to the operation is part of the tree park known as Les Planètes. Its surface area is 10,470 m².

The land faces :

- to the east, on Avenue de Verdun and open to the Marne;
- to the south, on the municipal boundary with Créteil, a suburban fabric
- to the north, on rue de la Marne and on the Parc des Planètes complex, facing the R+7 housing block;
- to the west, on rue de Neptune and on the whole of the Planets housing estate and the R+14 housing tower.

The site has a significant difference in level. It is composed of 2 levels:

- on the Planets park side, a high level at 34.57 NGF (on average) due to the embankments;
- on the south side, bordering Créteil, a low level at 32.00 NGF (on average).

The architectural and landscape design, general environment of the complex

The new building complex will house 50 social housing units (30 PLA and 20 PLUS), a 30-place boarding house and a 40-bed nursing home in a quiet, wooded environment, with the much appreciated presence of the banks of the Marne.

In designing our project, we have endeavoured to :

- respect the composition of the Parc des Planètes, its functioning and its qualities
- allow pedestrians, cars and residents to live together without disturbing each other;
- implanting the buildings to open up the views, to take in a maximum of natural light and to avoid facing each other;
- adapt to the shape of the land by using the building as a link between the upper and lower levels;
- design a semi-buried car park, naturally lit and directly linked to the public garden in the spirit of the Planets;
- maximise the use of south-facing windows to encourage light and heat gain, and open up the views towards the garden;
- to offer the residents of the neighbouring housing blocks and towers coordinated facades and noble materials;
- design the roofs of the buildings as a fifth planted façade.

Insertion into the site

The layout of the building elements is based on the logic and needs of the site, in accordance with those of the programme: urban figure (reconstitution of the street), orientation (wide opening to the south, east and west, no single exposure to the north), views (green spaces, Marne, for each of the 50 dwellings). A necessary margin of intimacy and setback has been created between the dwellings, the boarding house and the nursing home.

Materials and light

The facades and roofs are animated by the play of materials, light and porosity. Each building expresses very clearly, by a vertical intersection in the facade, the positioning of the accesses and circulations. These rhythmic markings also allow the façades to be sequenced and avoid any linear effect.

The choice of noble and durable materials was made: bricks and wood in the sheltered areas.

The buildings are composed of two parts:

- The base, slightly set back from the floors for the residential buildings, forms a sheltered area on the ground floor and expresses the robustness of the brick on the common areas. The private parts are clad in blond wood.
- In the central body, the facades are punctuated by a hand-moulded white brick facing; they house loggias clad in wood, an integral part of the architectural composition. The railings, made of progressive frosted glass, play with opacity in the lower part and transparency in the upper part.

The acroteria are raised by one metre to avoid the use of safety railings on the roof. The brick cladding is perforated to allow light to pass through and visually reduce the height of the building.

The use of different materials allows the building to play with reflections, transparency, opacity and roughness; light reacts differently to these variables.

The layout of the buildings of the complex is treated with visual openings allowing the south garden to be connected with the whole of the Parc des Planètes despite the difference in level. The light from the south crosses the site, illuminating the high plateau; it is a signal. The height of the buildings is graduated: two storeys inside the Parc des Planètes and up to four storeys on the banks of the Marne. The views from the upper floors open up to the wider landscape. Shadows are reduced to a minimum, with the smallest buildings to the south-west and the largest to the north-east on the Marne.

The nursing home

The nursing home has 40 residents. It accommodates ageing disabled people who require assistance with everyday activities, such as dressing and eating. Each unit has 20 rooms grouped around a lounge on the floor. The rooms have a generous surface area, above the usual standards, to allow residents to personalise their space with their own furniture. The rooms all look out onto the garden through large glass surfaces that offer views of nature even when lying down. The corridors are generous and naturally lit with views of nature even when lying down. The bathroom is equipped with a walk-in shower and has porcelain stoneware floors and coloured earthenware walls (quality materials). It is naturally lit. The care and the toilet are essential intimate moments in the life and the construction of identity of each one, the handicapped and ageing people deserve a space of quality which invites them to take care of them.

The circulation spaces distributing the rooms are treated as living spaces in their own right. The architecture is designed to accompany the movements which are moments of exchange and observation between residents and carers. Generously wide, they allow residents to stand in them when leaving their rooms while allowing them to cross paths with other residents. They overlook the roadways of the Parc des Planètes, which makes it possible to observe the comings and goings and to see what the weather is like. They distribute the floor lounges, the lift landings, the coordination office, all designed to be pleasant. The interior ambience is designed to be as unhostile and soft as possible.

Building users opinion

The garden to the south as well as the stepped terraces are very popular with the residents. The residents present psy pathologies, the choice of colors, textures and acoustics has been particularly worked to offer a qualitative and comfortable whole.

If you had to do it again?

We had to review the project in the APD phase following the major flooding in the region. No more rooms in the ground floor were accepted. This has significantly

modified the project and certain strong intentions have had to be modified.

See more details about this project

https://issuu.com/meandreetc/docs/dossier_presse_mah_metc_jahel

<https://www.meandre-etc.fr/portfolio/ensemble-immobilier-a-maisons-alfort-2/>

Photo credit

Pierre-Yves Brunaud

Stakeholders

Contractor

Name : OPHLM Maisons-Alfort

Contact : Audrey Thimon

<https://maisons-alfort.fr/social-et-solidarite/logement/maisons-alfort-habitat/>

Construction Manager

Name : Méandre etc'

Contact : Emmanuelle PATTE

<https://www.meandre-etc.fr/>

Stakeholders

Function : Thermal consultancy agency

FACEA

Karim Abbas, 1, avenue du Val de Fontenay 94134 FONTENAY SOUS BOIS Cedex, 01 49 74 12 33 / 01 49 74 12 70

<https://faceagroup.com/>

Function : Environmental consultancy

Panorama Paysage

Vania Dormoy, +33 (0)6 27 44 02 89 47, avenue Pasteur 93100 Montreuil

<http://www.panoramapaysage.com/>

Function : Company

Toutes les Cuisines

Daniel Sevrin, 99 rue Charles Bassée - 94120 FONTENAY SOUS BOIS Tel 07 68 89 45 44

<http://www.touteslescuisines.fr>

Type of market

Realization

Energy

Energy consumption

Primary energy need : 191,00 kWh/m².an

Primary energy need for standard building : 250,00 kWh/m².an

Calculation method : RT 2012

Breakdown for energy consumption : The building accommodates 40 residents, activity rooms and a central kitchen which also provides meals for another establishment in the city of planets. Heating plant 42.60 kWh/m² Vine cold. 1.40 kWh/m² DHW plant 54.30 kWh/m² Lighting plant 58.50 kWh/m²

Auxiliary plants 34.20 kWh/m²

Renewables & systems

Systems

Heating system :

- Urban network
- Low temperature floor heating

Hot water system :

- Urban network

Cooling system :

- Tape

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Heat pump

Environment

Risks

Hazards to which the building is exposed :

- Flooding/Slow flood
- Flooding/Fast Recession
- Urban heat island

Risks measures put in place :

Near the river, the project must provide **solutions to preserve the maximum number of permeable spaces**, and not to aggravate the situation in the event of heavy rains. We have worked in this direction by **reducing runoff surfaces as much as possible**. The garden is also structured by a system of valleys which offers a retention capacity adjusted to the project. The site is located in a flood zone and is concerned by the Marne PPRI in the Val-de-Marne. Consequently, taking into account the Highest **E** to the **C onnues** coast (PHEC = 35.57 NGF) relating to the 100-year flood, the garden level is considered liable to flooding.

The entire project is designed to keep the outdoor spaces consistent with the building despite the strong PPRI constraint. The garden is planted in the ground as much as possible, guaranteeing the continuity of the park of the residence of the Planets. We used the PPRI constraint to create **water retention basins** as well as landscaped valleys which contribute to the creation of **islands of freshness** while we are in the south. This brings a comfortable and cool space to the residents. The cool islands created from the retention basins also allow the **return of biodiversity** and create continuity with the Parc des Planètes and the banks of the Marne.

The bedrooms, living facilities and technical rooms are located above this level, on the ground floor. The building is designed by the architects to be able to be used in the event of a hundred-year flood and/or to allow the safe evacuation of residents.

Urban environment

The Parc des Planètes in Maisons-Alfort is a wooded site containing several social housing buildings on the border with Créteil along the Marne. These buildings, built in the 1960s, are neatly designed with stone entrance halls.

The tall trees and vast lawns offer residents a quality living space in one of the most generous spaces in the city. The entire project is designed to keep the outdoor spaces consistent across the three different programs. The garden is planted in the ground as much as possible, guaranteeing the continuity of the park of the residence of the Planets. The location of the buildings reconstitutes an urban fabric in a district where the urban fabric is heterogeneous. From the point of view of sunshine, the heights and distances of the buildings designed allow a minimal impact on the existing building. The location of the social housing buildings, the medicalized foster home and the boarding house has evolved over the course of the studies, in particular due to the interpretation of the PPRI. Indeed, the site is a regulated area of the flood risk prevention plan. As such, the first project positioned on the ground floor the rooms for activities not essential to the operation of the establishment. It benefited from level access to the garden allowing recreational, cultural and physical activities for the residents and in connection with nature.

Products

Product

Rainwater retention basin

Panorama Paysage

Vania Dormoy, +33 (0)6 27 44 02 89 124 Rue de Rosny, 93100 Montreuil

<http://www.panoramapaysage.com/>

Product category : Aménagement extérieurs / Gestion des eaux pluviales

Simple and low-tech solution, using gravity and soil permeability.

No technology needed. Retention of rainwater and creation of islands of freshness through the work of topography.

The solution was quickly accepted because it does not require maintenance and has no additional cost. The fear was around the water level in case of heavy rain and flooding for the risk of drowning. However, this case is an exceptional case in the event of a hundred-year flood.



Costs

Construction and exploitation costs

Cost of studies : 1 960 000 €

Total cost of the building : 19 000 000 €

Health and comfort

Comfort

Health & comfort :

All rooms are ventilated and naturally lit. Cross ventilation and natural nocturnal cooling are provided.

Installation of natural ventilation shutters also ensuring the safety of residents.

Spaces to the south are planned with large living rooms. No jump, a qualitative choice of materials.

Contest

Reasons for participating in the competition(s)

The project presented offers low-tech solutions to mitigate the risk of flooding related to the proximity to the Marne. It also offers the creation of an island of freshness.

Prevent the risk of flooding

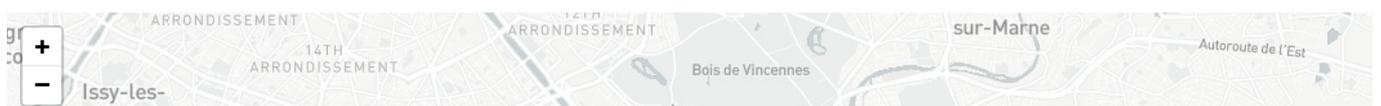
The terraces and gentle slopes were planned to raise the buildings above the highest known water level. The layout of the social housing buildings, the medicalized foster home and the boarding house have been adapted so that this constraint does not deprive the residents of comfortable access to the outdoors. The garden is made up of large water retention basins capable of infiltrating part of the soil and rejecting the excess in the network. These large basins operate by gravity and require no maintenance.

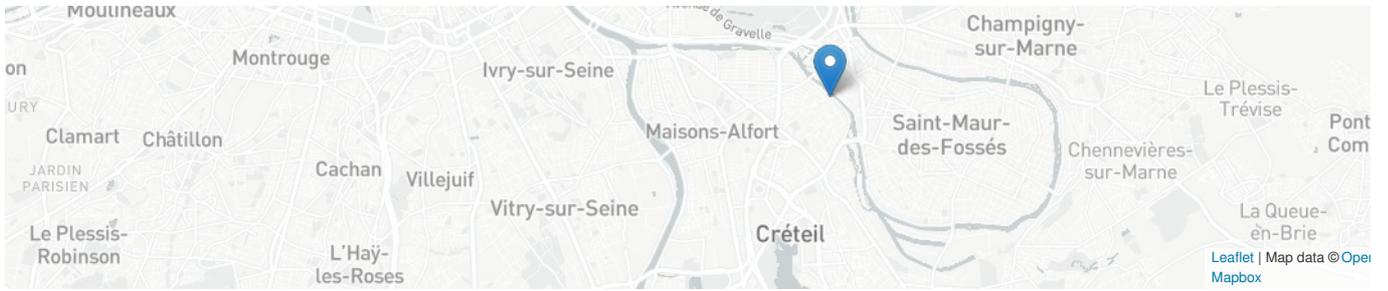
The flood-prone garden level also has a separate plumbing and electricity network. The elevators are also blocked on the ground floor in the event of strong flooding.

These basins, as well as the garden level, slow down the rise in water and allow the possibility of leaving the establishment in operation to allow secure evacuation.

Island of freshness

Retention basins are a biodiversity reserve. They are planted and allow the creation of islands of freshness in the gardens.





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