Eco-construction of a micro-nursery in Pernay

by éric leconte / 2019-04-10 16:20:16 / France / 7289 / FR

Primary energy need :

97 kWhep/m².an

(Calculation method : RT 2012)

ENERGY CONSUMPTION

Economical building *Building*

- A : < 50
- B : 51 à 90 — **B**
- C : 91 à 150
- D : 151 à 230
- E : 231 à 330
- F : 331 à 450
- G : > 450

Energy-intensive building

Building Type : Preschool, kindergarten, nursery
Construction Year : 2017
Delivery year : 2018
Address 1 - street : rue de la Gare 37230 PERNAY, France
Climate zone : [Cwb] Mild, dry winter, cool and wet summer.

Net Floor Area : 183 m² SHON RT
Construction/refurbishment cost : 328 666 €
Cost/m2 : 1795.99 €/m²

General information

-Compactness of the frame, South solar gains, solar protection, reinforced insulation, biosourced materials
-Low floor of insulating RCH
-Reinforced insulation of buried parts
-Structure and timber frame
-Wood cladding, zinc and veture composite panel
-Outer / inner insulation made of wood wool
-External joinery reinforced insulation, profiles with thermal / phonic bridge breakage
-Low consumption and servo lighting fixtures according to occupancy rate
-Limited flow faucets
-Mixed low temperature condensing boiler
-High efficiency double flow ventilation
-Reinforced airtightness

Sustainable development approach of the project owner

Meet the demand of the families of the Commune

Efficient, economical and virtuous building: communal will

Architectural description

Coherence with the ambitions of the public authorities in terms of sustainable development / confirm the choice of a virtuous, sustainable, adaptable and evolutive constructive principles / Choose simple materials of maintenance to make choices of design guaranteeing the optimization of the energy costs during the ranges of occupation management / Controlled and regulated energy

Search for energy sobriety / optimisation of the time "construction site" / respect of the allocated budget qualification of the southern entrance of the Commune interaction direct between MICRO-CRECHE and existing buildings / work on the envelope and the volumetry (volumetry and simple contrasts) / interior spaces quickly readable/ benchmarks for users concerning general soothing ambient comfort (brightness, colors, materials, acoustics) / PMR regulation requirements (walk-in building)

Stakeholders

Contractor

Name : Communauté de Communes Gâtines Choisilles - Pays de Racan
Contact : Mr TRYSTRAM 02 47 29 81 00
http://www.gatine-racan.fr/

Construction Manager

Name : Architectures Éric Leconte (AEL)
Contact : ÉRIC LECONTE - Architecte - 02 46 10 54 98 - eric.leconte@quarante6.com
https://www.pinterest.fr/architectureseric leconte/boards/

Stakeholders

Function : Designer

Éric LECONTE (mandataire de l'équipe Maîtrise d'oeuvre)

Éric LECONTE - 02 46 10 54 98 - eric.leconte@quarante6.com

http://quarante6.com/wordpress/
Architect

Function : Thermal consultancy agency

bet CALLU

Mr MUREAU - 02 47 50 91 16 - contact@betcallu.fr

https://www.bureau-etudes-callu.fr/
Thermal Study Office

Function : Company

sarl POUËSSEL

Mr POUËSSEL - 02 47 53 92 80 - pouessel@sarl-pouessel.com

https://www.stephane-pouessel.com
M.O.B. - frame - ITE - cladding and cladding - zinc roofing

Function : Company

BERNEUX Construction

Mr BERNEUX - 02 47 23 14 80 - laurent.berneux@berneux.fr

https://www.berneux.fr
Big work

Function : Company

BRISSET

Mr RIBEIRO - 02 47 44 24 45 - contact@brisset.fr

exterior joinery - locksmith

Function : Company

ASSISTANCE ÉTANCHÉITÉ

Mr PAIN - 02 47 25 07 08 - g.pain@assistanceetancheite.fr

sealing

Type of market

Global performance contract

Energy

Energy consumption

Primary energy need : 97,00 kWhep/m^2.an

Primary energy need for standard building : 98,00 kWhep/m^2.an

Calculation method : RT 2012

Envelope performance

Envelope U-Value : 0,25 W.m^{-2}.K^{-1}

More information :
• external walls: U = 0.145 W / m2 ° C
• low floor: Up = 0.130 W / m2 ° C
• roof: U = 0.166 W / m2 ° C
• exterior joinery: Uw = 1.40 W / m2.K - Sw = 0.53 - TLw = 0.65
• coefficient. thermal bridges: 0.120 w / ml ° C and 0.60 w / ml ° C

Building Compactness Coefficient : 0,86

Indicator : I4

Air Tightness Value : 0,60

Renewables & systems

Systems

Heating system :
- Low temperature gas boiler
- Condensing gas boiler
- Low temperature floor heating

Hot water system :
- Low temperature gas boiler
- Condensing gas boiler

Cooling system :
- No cooling system

Ventilation system :
- Double flow heat exchanger

Renewable systems :
- No renewable energy systems

Environment

Urban environment

Land plot area : 424,00 m^2

Built-up area : 52,00 %

Green space : 48,00

-Requalification of the southern entrance of the commune

-Direct interaction between MICRO-CRECHE and existing buildings

-Proximity of the plot of the site compared to the urban center (suburban area, public transport, local shops, services, ...)

Products

Product

STEICO

STEICO

Product category : Second œuvre / Cloisons, isolation

WOOD WOOL

GOOD

Costs

Construction and exploitation costs

Cost of studies : 30 000 €

Total cost of the building : 360 000 €

Health and comfort

Comfort

Health & comfort :

-Immediate proximity to the public space and access to the building

-Legibility of the 2 separate volumes constituting the building (urban landmark)

-Easy identification of the entrance to the building (central access, zinc cap, ...)

-Solar contributions + natural light South and West (activity room, administrative areas, staff relaxation area) = 60% of the total glazed area

-Natural lighting through the reception area

-Sun-breaker South entrance

-Light interior colors - contrast between vertical walls and horizontal walls (perception of interior volumes)

Acoustic comfort :

-Reinforced insulation of the outer walls of wood wool

-Reinforced insulation of the wood wool

-Interior dividing walls Isophonic dividing partitions (children's areas / surrounding areas)

-Acoustic ceilings

-Flexible isophonic flooring

-Non parallelepipedic activity room

Contest

Reasons for participating in the competition(s)

This new childcare structure should, first and foremost, **meet the requirements and the quality and intentions of** this type of very specific public equipment. The stake, and the social responsibility of the Architect, was to offer **an architecture suiting the sensorial character** of the place so that the children welcomed

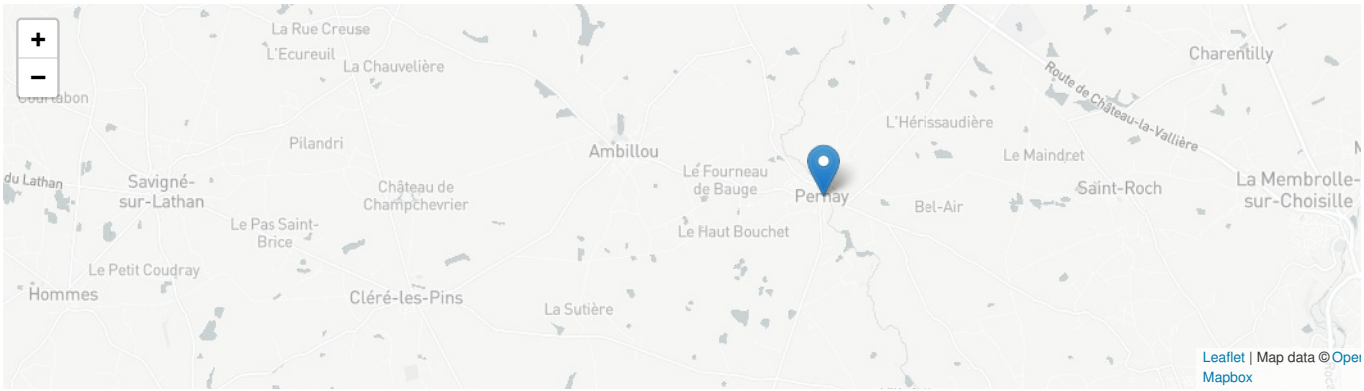
(from 9 months to 3 and a half years) flourish and have a landmark.
The overall strategy to achieve the **comfort goals** , certainly more than any other program, was the attention to construction details, the treatment of light, acoustics, and ambient air, colour usage and materials associated with the complexity of uses.
In terms of urban planning at the scale of the Commune, this new establishment had to respond to its **social vocation** . The location of the plot, located in the immediate vicinity of the city center, is a privilege to help requalify the place and **strengthen its close relationship with the town center** .
To conclude our intentions states and of our approach, the functional, architectural and urban translation of the project has had the pretension to be the synthesis of our analysis of the program and the pententiel of development of the site to **produce meaning** , to through a logical, simple, coherent and adapted to the **quality of reception of users** .

Building candidate in the category

Santé & Confort

Prix du public

Prix des Etudiants



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