

Reconfiguration of the Fontainas islet

© 6660 Last modified by the author on 20/06/2019 - 18:04



Urban renewal

Address 1 - street : 1000 PLACE FONTAINAS, BRUXELLES, Belgique

Population : 120 hab

Number of jobs : 15 emplois

Starting year of the project : 2013

Delivery year of the project : 2019

Key words : Landmarks, urban landmarks, ecology, biodiversity, interrelations, links, poles of intensity, living in a park, flow, fluidity, participation, openness, permeability, soft mobility, stimulation of neighborhood life, green mesh, density, mix



1.45 ha



11 504 310 €

Certifications :



ID CARD

Urban vision

In the heart of Brussels, the vast undefined space of the Fontainas islet is the result of the demolition of the Philips factories.

How to reconstruct, "stitch" these islet fragments: close them, pursue them, extend them...?

Rather than rebuilding closed built fronts that enclave, we propose an intervention by specific buildings whose careful implementation, according to the local needs of the site, makes it possible to dress blind adjoining buildings, to rebalance the volumes of the city and to demonstrate the park's green space, while creating perspectives, openings, passages... The site in its initial state, although vast and equipped with some sports facilities in connection with the future pedestrian centre, constituted a succession of devalued spaces in a context of very heterogeneous dimensions.

The expected response was the reconstruction of the closed classical islet of the historic city, in order to cauterize the open wounds due to the economic and social disparities of the place.

The proposal was not to enclave, but to articulate through an open morphology in order to create a porous islet crossed by a real park, a public space made of biodiversity, which reconciles human, vegetable, built... and which by this gesture links the surrounding districts.

The project proposes the use of singular (discontinuous) buildings whose careful location makes it possible to dress the blind adjoining buildings of the site and to rebalance the volumes of the city. Urban continuity is generated not by the built environment but by the open spaces created.

The resulting perspectives, fluid paths and social, urban and landscape mix will stimulate neighbourhood life and urban cohesion.

This vision of strengthening the links between the project, context and inhabitants has been enriched and developed during numerous workshops organised before the various key phases of the project into a continuous participatory process with the inhabitants which has continued over several years, from the elaboration of its master plan to its inauguration.

The park, a dense urban context at the crossroads of green networks.

The district Fontainas Park is anchored in a dense urban fabric: an important potential of activities, local life, meetings, social exchanges ... At the crossroads of the green meshes and structuring axes of the pentagon, the islet Fontainas is a lung of greenery in the Brussels urban landscape. It is at the heart of a network of mobility, proximities and important intensities: the public, educational, and commercial functions are numerous, it is less than 15 minutes walk from nearly 60% of the pentagon, and between metro lines and important buses. The redevelopment of the Fontainas Park intensifies intra and inter-neighborhood links and creates a new urban center that stimulates life, social exchanges, mixed activity areas, etc.

Biodiversity and ecosystem

Particular attention was paid to the use of recycled materials, the biodiversity of the park, its ecosystem (the species of the different plantations were chosen with ecologists in order to create different plant environments, each constituting an ecological system that accompanies the different activities of the park). Water management is also taken care of through the careful design of the park's topography and the creation of a series of valleys and shallow basins that allow rainwater to infiltrate naturally. We have also proposed the installation of water points via hand-pumped fountains that allow controlled water control but also provide a fun and educational role.

General composition of the park

In order to harmoniously reconcile the many activities that will be hosted in the park, we have chosen to create a large lawn that provides a central space that allows viewers to see from one side of the park to the other and contrasts a densely planted southern fringe with a more open part, on the Rue des 6 Jetons side. The development also preserves as many existing trees as possible and enhances them as individual subjects.

Pathways and lighting

A careful study of the pathways and their lighting has been designed in order to respond to the furniture (large concrete benches, picnic tables, bike racks, garbage cans, drinking fountains, etc.) and the different areas of the city. activities put in place in the project.

Sports and leisure equipment

The park consists of a set of fun and sports equipment that meets the needs and demands of users. Indeed, the project site is surrounded by many schools whose children are an important audience. There are various play areas in the park, and there are several areas where you can practice sports activities. Everything is thought of flexibly. Thus, the football field is designed as an informal field so that other multiple activities can take place there.

Functions and architectural vision Housing the city - Living in a park - Plurality of functions

The project provides for a high social mix on the site by creating housing of different types: 22 medium and social housing units with one to three bedrooms are distributed within the buildings. 35 independent studios including sanitary facilities, kitchenette, living room, are available to students. However, their flexible design could also be suitable for single people or couples without children. A large common room on the ground floor for meetings. The housing is designed in relation to the park, which offers an exceptional quality of life in the city, but also ensures, through a continuous human presence, social control for the park. The accommodations are all accessible, including a specially designed for the PRM. 42 parking spaces at their disposal have been created under the park.

The project also includes public facilities for a wide audience:

On the ground floor of the 6 Jetons building, 2 early childhood spaces, approved by the ONE, with play areas, central changing areas, dormitories, outdoor garden, can accommodate 20 children.

A sports hall, located in the basement of the Fontainas building, will accommodate schools and clubs, for their training but also during competitions. The room, designed for 300 people, will accommodate the public on these occasions. It includes several spaces reserved for PRM. The types of sports practiced will be basketball, volleyball, badminton and martial arts.

The independent hotel and catering business, located on the ground floor of the Fontainas building, covers an area of more than 190m². It includes an area for small dining tables and a bar area facing the outdoor sports hall, which completes the sports complex's offer.

The multi-purpose room, located on the first floor of the Fontainas building, will be used for various events organized by and for the district and the city.

Programme

- Housing
- Businesses and services
- Public facilities and infrastructure
- Public spaces
- Green spaces

CO2 Impact

CO2 Impact : 8 tCO2

Method used to calculate CO2 impact

Méthode retenue : calcul PEB Tonne économisée par le projet : · Emissions de CO2 pour les logements et les co-accueillants, sans cogénération : 72 740 kg/an · Économies réalisées grâce à la cogénération : 7 964 kg/an · Emissions de CO2 avec cogénération : 72 740 – 7 964 = 64 776 kg/an

Project progress

- Management phase
- Delivery phase
- Operational phase

Prescriptions and zoning

- Particular conventions

Key points

- Quality of life
- Economic development
- Mobility
- Resources
- Biodiversity
- Energy /Climate

Approaches used

- Ecodistrict national label
- Agenda 21
- Others

Certifications

- Ecodistrict national label
- Autre

More info

<http://architectes.b612associates.com/portfolio/fontainas/>

Data reliability

Assessor

Photo credit

The credits of the photographs are written in the titles of the images downloaded. The people to credit for these photographs are the B612 associates office and the photographer Marcel Van Coile.

TERRITORY

Type of territory

The project is located in the heart of Brussels, in a strategic position of the historic center of the city. The site (10.000m2) resulted from the demolition of the Phillips factories leaving it in a situation of incompleteness, disaffection.

The urban evolution of the pentagon allowed us to identify the special relationship of Fontainas islet to the central boulevards. Place Fontainas is one of the breaths in the sequence of the other urban squares of the center: Anneessens, place de la Bourse, place de Brouckère ... Its morphological evolution shows that the islet has always been a large plot that has allowed occupations and important activities. A few impasses allowed the buildings to be used in depth in the islet, and produced connections with the rest of the neighborhood: Van Aertevelde street, the

Rue Marché au Charbon ... The islet is located at the crossroads of green meshes and structuring axes.

Given the scarcity of large open spaces in the pentagon and its proximity to other elements of the green grid, the Fontainas islet is an important green link in the Brussels urban landscape. Urban public parks of significant size are indeed not numerous in the pentagon, and Fontainas Park is the only large park in the South West of the City Center. It is therefore a significant and significant plant potential in the pentagon, a plant and landscape oasis.

The site also had potential as an element of inter-district link, by its proximity to the hypercenter and its location between two long North South structuring axes: Van Aertvelde street and the boulevards of the centre. The new Fontainas Park could create a qualitative cross-link that is all the more relevant as the Fontainas islet is also at the heart of a network of mobility, proximities and important intensities: the public, educational and commercial functions are numerous. is located less than 15 minutes walk from almost 60% of the pentagon, between metro lines and important buses lines. Everything is brought together to make it an attractive and qualitative local living place.

The surrounding urban context of the Fontainas islet has a dense medieval structure. It is strongly built. Van Artevelde Street has imposing and high built-up fronts that enclose the public space of the street. All the views from the Park were strongly devalued: decrepit walls, blind gables, high walls of gardens, tags ...

A corollary of the important built density of the district is the very high number of inhabitants: 35 339 hab / km². This is a high figure, which can be a problem, but also a great potential for activity, local life, meetings, social exchanges ... The new Fontainas park was designed with this potential to be a lung of air at the service of this inhabited density to act as a generous expansion in continuity and in connection with the urban fluidity of the public spaces of the center, dead ends, streets, alleys, squares

Climate zone

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

More info

<http://architectes.b612associates.com/portfolio/fontainas/>

KEY FIGURES

Neighbourhood paved surfaces

Neighbourhood paved surfaces : 11 551 m²

Green areas, roofs included

Green areas, roofs included : 14 813 m²

Public spaces area

Public spaces area : 15 697 m²

Public facilities floor area

Public facilities floor area : 2 754 m²

Housing floor area

Housing floor area : 5 817 m²

Number of residential units

Number of residential units : 57

Number of social housing units

Number of social housing units : 22

Green spaces /inhabitant

123.44

Public spaces/inhabitant

130.81

Total investment costs (before tax)

Total investment costs (before tax) : 11 504 310 € HT

GOVERNANCE

Project holder

Name : City of Brussels - Régie Foncière of the City of Brussels - Sustainable neighborhood contract Jardin au Fleurs - Brussels Capital Region

Type : City

General description :

"The Régie Foncière of the City of Brussels was created on 1 January 2003 and manages and develops the private assets of the City of Brussels. As the main real estate operator of the City, the Régie intends to act on the real estate market with a role specific, distinct from social housing operators. Its action is mainly focused on the average housing while having a regulatory approach compared to the private market. With a portfolio of more than 3,500 housing units, the Régie works to optimize and the growth of this heritage in order to provide Brussels citizens with decent and quality housing at a competitive price 68% of housing are offered to any candidate without specific income conditions and therefore 32% of the housing stock is made up. The objective of the Régie is to increase this park, and as a reference operator, to help regulate the private global rental market within the limits of its action. In parallel, the Régie naturally seeks to preserve the financial equilibrium in the short and long term. Useful information on the Régie Foncière can be found in the book "Bricks and Men" published by the 'Cercle d'Histoire de Bruxelles'. "<https://regiefonciere.bruxelles.be/fr/la-regie-fonciere>

Project management

Description :

At the level of the Project Management, the project was managed in turn by the District Sustainable Contracts Unit and the Land Management Board of the City of Brussels in the name of the various services of the City financing the operation (Housing, Sports, Urban Renovation, Early Childhood, Green Spaces), which has also been financially supported by the Brussels Capital Region. At the level of the Project Management, the project was managed by B612associates, Bureau of Urbanism and Architecture ensuring the complete mission of masterplan and realization of the complex. B612associates also carried out the mission of conception and animation of the Citizen Participation developed during numerous workshops organized upstream of the different key phases of the project. The specificity emphasized in the participatory process carried out is the continuous action carried out over several years with the inhabitants, with activities since the elaboration of the masterplan (in 2013) by the project authors until the inauguration of the park and of the complex (in 2019). This participation not only allowed residents to take ownership of the project, but especially the designers to adapt the park program according to the needs and expectations they expressed.

Project stakeholders

B612 Associates

Function : Architecture agency

Architecture - urbanism - Project author's mission

B612 associates - Olivier Mathieu et Li Mei Tsien -b612@b612.be - +32 2 732 96 93

Construction21 company page :

More info : B612 associates - Olivier Mathieu et Li Mei Tsien -b612@b612.be - +32 2 732 96 93

<http://architectes.b612associates.com/portfolio/fontainas/>

OLM

Function : Technical consultancy agency

Landscape study

OLM - office@o-l-m.net - + 33 01 42 06 44 51

Construction21 company page :



OLM Paysagistes

More info : <http://www.o-l-m.net/fr/>

<http://www.o-l-m.net/fr/projets/1-projets/42-fon>

NEY & Partners

Function : Technical consultancy agency

Stability study

NEY & PARTNERS - ney@ney.partners - +32 2 643 21 80

Construction21 company page :

More info : <https://www.ney.be>

<https://www.ney.partners/fr/project/mixed-use-buildings-fontainas.html>

MK Engineering

Function : Technical consultancy agency

Study of special techniques and peb

Piotr Wierusz-Kowalski - p.kowalski@mkengineering.be - +32 2 340 65 00

Construction21 company page :



MK Engineering

More info : <http://mkengineering.be/fr>

<http://mkengineering.be/fr/references/reference-detail/10>

Construction21 company page :

SOLUTIONS

Reconfiguration of the Fontainas islet - citizen participation

Description :

The file submitted to present our citizen participation solution illustrates:

- A timeline showing the many stages in which residents could participate
- The various participatory exchanges that our office could have with the institutions concerned by the project and the local residents (children, adults, ...).
- Some examples of the results of analysis of the surveys carried out which allowed us to guide us towards the realization of a project integrated in its district and its city.
- Citizen participation



Company :

QUALITY OF LIFE

Quality of life / density

The Fontainas project is an ambitious urban renewal project for the creation of 57 housing units with public services and facilities. It was created under the "Jardin aux Fleurs" sustainable neighborhood contract and re-furnished the Fontainas islet and its surroundings in the inhabited park in order to offer housing in the city center in an attractive living environment within a green space quality with many service and social control in this part of the Pentagon. The project decompartmentalizes the islet in order to open it up to the maximum on the surrounding districts and to maximize the park by the rehabilitation of some unexploited surfaces.

A new entrance was created to access the park and allow the pedestrian connection of Van Artevelde street and the boulevards, ensuring new connections within the city.

The project offers a large mix of functions: 57 housing units, a gym, a multipurpose room, two reception areas for early childhood, a restaurant, outdoor sports fields, various playgrounds for children according to age. .. in order to live these new links between neighborhoods. Particular attention was paid to the quality of the park and the proposed new infrastructures.

The park also offers a great diversity of plant environments and an exemplary water management "zero rejection" based on the realization of valleys, watersheds and infiltration of water. The entire built program reaches the passive standard, outside the "low-energy" restaurant.

The installation of punctual buildings on at least 4 levels makes it possible to bring a true density while preserving the landscape surfaces. The dwellings also provide a social control function.

The project of **reconfiguration of Fontainas islet**, in connection with the future pedestrian of the city center, **creates a place of residence**, activities and **meetings**, in favor of the **soft mobility** and the **biodiversity**, in the respect of the **sustainable development** and strong **management of responsible water**.

Spatial mixes present on the site can stimulate neighborhood life, generating social coexistence urban, internal and external to it. The geographical organization of the park and its buildings creates a synergy, a place of life and social and cultural activities, by creating links between the various activities on offer: sports, gardening, relaxation, education, games, etc.

Net density

-0

Culture and heritage

The Master Plan of the project was realized following a careful analysis of the urban structure of the existing site, its history and the actors of the surrounding neighborhoods. Its development is based on an ambitious citizen participation with the harvest of 2671 opinions divided into 291 subjects. This allowed the designers to identify the cultural and social identity of the future users of the park and the complex in order to integrate them into the project, which reflects its diversity, life and desire for cohabitation within a mixed project. open. The selected vegetation favors local species. The project opens on its urban context in order to highlight it as well as the links which underlie its history.

Social diversity

The project provides for a great social mix on the site by creating different types of housing: 22 medium and one-bedroom social housing units are distributed within the buildings. 35 independent studios including health, kitchenette, living room, are available to students. Their flexible design could nevertheless be suitable for single people or couples without children. A large common room favoring meetings located on the ground floor. The dwellings are designed in relation to the park which offers them an exceptional quality of life in the city, but also ensures, by a

continuous human presence, a social control for the park. The accommodations are all accessible, including a specially designed for the PRM. 42 parking spaces at their disposal have been created under the park.

The project also includes public facilities intended for a large audience:

On the ground floor of building 6 Jetons, 2 spaces for early childhood, approved by the ONE, with play areas, central exchange areas, dormitories, outdoor garden, can accommodate 20 children.

A sport hall, located in the basement of Fontainas building, will host schools and clubs, for their training but also during competitions. The room, planned for 300 people will accommodate the public on these occasions. It includes several sites reserved for PRMs. The types of sport practiced will be basketball, volleyball, badminton and martial arts.

The independent horeca, located on the ground floor of the Fontainas building, occupies an area of more than 190m². It includes an area for small dining tables and a bar area facing the outdoor sport hall that complements the offer of the sports complex.

The multipurpose room, located on the first floor of the Fontainas building, will be used for various events organized by and for the district and the city.

Social inclusion and safety

The issues of social control and security were taken into account in the project from the very beginning of the development of the Master Plan. The strategy put in place for the integration of these factors was based on citizen participation to identify the fears and expectations of users.

The establishment of punctual buildings of several levels with housing for various audiences (young, elderly, family) overlooking the park, ensures a continuous life on the site by the comings and goings of its inhabitants and their view on the park to bring greater care to the park's public space and its occupation. The design of the night illumination is part of the landscape and the topography of the park and brings comfort of use to the pedestrian who crosses it in the evening.

Ambient air quality and health

The entire project project is equipped with dual flow ventilation with heat recovery.

Thus, besides the energy performance of the system, a high quality of air is ensured in the spaces. F7 quality filters are additionally provided on the supply networks in order to minimize the intake of pollutants and particles in the pulsed air.

Special care has been taken in the dimensioning of ventilation networks to ensure low air transport speeds, thus enabling low pressure losses (low consumption of fans) and high acoustic performance. These parameters were controlled by the Venac acoustic office.

In terms of the emission of flue gases from boiler rooms, the chimneys have been carefully installed away from the occupied areas. In addition, the boilers are low NOx type

SOLUTIONS

Living environment - A social and spatial mix at the service of citizens

Description :

The various documents that we submit here (cuts, plans and photographs of the project), illustrate our desire to create a new form of diversity, and to offer an exceptional quality of habitability. The accommodations are spacious, bright and offer quiet and pleasant views of a park specially designed for optimal social and spatial comfort.

Company :

- Promotion of cultural/ historical identity
- Proximity services
- Other



ECONOMIC DEVELOPMENT

Local development

The Fontainas block is equipped with several new facilities that will contribute to the social and economic development of the neighborhood.

Two infrastructures for early childhood can accommodate about twenty children to free working parents and provide job creation for 4 nurserymen and related services.

A two-level horeca was created for the animation of the district and the park and will allow the creation of employment for a manager and a complete team (kitchen, bar, service).

An Omnisports hall meeting the national competition standards for basketball will contribute to the dynamism of the neighborhood. It provides job creation for a manager and a maintenance team.

A multipurpose room with high performance acoustic soundproofing will accommodate large events of various types with job creation for a manager and a maintenance team.

The entire complex will revitalize the neighborhood and redeploy the local economy in the center of Brussels.

Functional diversity

The complex Fontainas islet and its program is thought at the local level, for the creation of the services of proximity necessary to the existing residents of the district and for the future inhabitants. The sports hall, the catering facilities, the multipurpose room, the services of reception for the early childhood as well as the sports fields and the realized play areas are intended for the use of the inhabitants of the district in order to

create a true pole local urban development and foster the social and economic links of the neighborhood.

% of public spaces

108

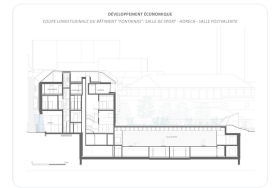
SOLUTIONS

Reconfiguration of the Fontainas islet - amenities for the citizens and the economic development of the neighborhood.

Description :

The document presented illustrates, in a section and some plans, the project facilities that contribute to the economic development of the neighborhood:

- Longitudinal section of the "fontainas" building: sport hall - horeca - multipurpose room;
 - Plans of the basement, the ground floor, the first and second floors of the "fontainas" building: sport hall - catering - multipurpose room;
 - Plan of the ground floor of the "6 Jetons" building: co-welcoming spaces;
 - Plan of the ground floor of Van Artevelde buildings: common room.
- Business parks



TRANSPORT

Mobility strategy

In terms of mobility, the objective of the Fontainas islet redevelopment project is to promote soft mobility by creating a fluid permeability through the Park, between the Park and all neighborhood components in order to register for more large scale in the green and urban mesh of the city.

Indeed, the site is close to the hypercentre and many public, educational, commercial. It is less than 15 minutes walk from almost 60% of the pentagon, and between major metro and bus lines. The redevelopment of the block allows for the creation of a pedestrian and bicycle link between the structural axes of Van Artevelde Street and boulevards of Center, thus connecting several neighborhoods.

The park is crossed by generous trails of 4m wide, connecting the 4 main entrances of the park. All slopes and all pathways, including the one leading on the sports plateau, take into account the PRM displacement.

SOLUTIONS

Reconfiguration of the fontainas island - a soft mobility

Description :

Graphic documents of the environmental study of the surrounding green network, nearby infrastructures, public transport and pedestrian distances between the project and the major monuments and squares of Brussels and the paths created within the park of the islet.

- Soft transportation
- Parking management
- Other



RESOURCES

% Paved surfaces

80

Water management

The management of water has been a point of attention from the sketch of the project both on the low consumption of appliances and on the management of rainwater.

Innovative water management is carried out thanks to the careful design of the park's topography and the implementation of a series of valleys and shallow basins collecting water from all the roofs and surrounding areas and allowing natural infiltration as well as the delay of rainwater in a way integrated in the landscaping for a project "nearly zero rainwater discharge". This surface management of rainwater not only promotes infiltration, but also biodiversity, without additional cost, the budget of the mandatory stormwatersheds having been converted into a landscaping budget in the profile of public space and citizens .

Plumbing fixtures and fittings have been selected based on their performance in water consumption and the distribution network is equipped with a pressure reducer to minimize overconsumption.

An individual accounting of water consumption also makes it possible to make the end users aware of their responsibilities.

A rainwater recovery tank for roofs feeds a hand pump that can be used for watering the surroundings or playing water games in summer. This solution allows on the one hand to limit the installations requiring maintenance (electric pump, filters, underground cistern), while raising public awareness in a fun way to the problem of water in cities.

Soil management

The Fontainas Park is located on a former Philips factory site. In addition to pollution with hydrocarbons and heavy metals, the site also consisted of a basement housing the old cellars. So the soil was unsuitable for planting because of very poor soil and sometimes empty.

The soil remediation work was done in several stages: stripping and storage of reusable arable soil for future development, removal of polluted soil, destruction of slabs and cellar walls, backfilling of the soil layers to be reconstituted (1.00 to 1.30m), implementation of the arable land associated with an amended land.

The small amount of arable land to be re-used has led us to provide a rich topsoil from transformed regional agricultural land. These have been amended by specific mixtures, adapted to the four types of plantations of the project.

Soil management is also reflected in leveling work to treat the stormwater management of the site and buildings through a gravity and air storage system. The park was divided into 5 watersheds, based on the existing topography restored. At the low point of each of its watersheds, a permeability test made it possible to ensure good infiltration into the soil. This point has been particularly studied because the water table on this site is relatively high and that one is in the bed of the Senne.

SOLUTIONS

Reconfiguration of the fontainas island - exemplary water management

Description :

The solution illustrated here, with technical plans and 3 photographs, is the study of soil remediation and rainwater management through the creation of a new topography (stormwater reservoirs and basins).

- Water management
- Soil management

BIODIVERSITY

Biodiversity and natural areas

The site prior to the works was very low in biodiversity, since it consisted of a lawn and about ten trees of 4 different species. Among these trees, the project has kept 6, the dimensions of which make today exceptional subjects highlighted.

The plantation project was conducted in close collaboration with 2 ecologists, having studied the natural environments of the region. Large-scale work has defined the type of soil and existing green and blue structures around the site.

Thus, the park proposes 5 vegetal typologies, deployed according to the uses of the park:

- the fringes of the park serving as distance and jewel are typical of the old undergrowth as found in the forest of Soignes or Meerdael. The constitution of Hetraie-Chelnaie and Milio-Fagetum environments are fragile but perfectly adapted to non-crossed spaces. Example of plant species: *Quercus cerris*, *Acer campestre*, *Sorbus torminalis*, *Rhamnus catharticus*, *Mercurialis perennis*, *Galanthus nivalis*, *Aegopodium podagraria*, *Hepatica nobilis* ...
- the heart of the park offers lawns shaded by trees of horticultural nature to offer a variety of foliage and colors with the seasons. Example of plant essences: *Acer capadocicum*, *Fraxinus angustifolia*, *Ginkgo biloba*, *Cladastris lutea*, *Lonicera involucrata ledebourii*, *Syringa microphylla superba*, *Hemerocallis citrina*, *Vinca minor* ...
- The valleys and basins are composed of wet and fresh plants of the Aulnaie-frenaie type. Example of plant species: *Populus tremula*, *Salix viminalis*, *Salix purpurea* ...
- The roof of the semi-underground gymnasium offers a dry moorland medium adapted to the low substrate thickness and low humidity. Example of plant species: *Pinus sylvestris*, *Genista radiata*, *Calluna vulgaris*, *Vaccinium vitis*, *Deschampia cespitosa* ...
- Urban orchard composed of *Prunus cerasus* 'northern cherry' and *Malus toringo* on a slope in meadow

Finally, the lawns and meadows of the surroundings are composed of mixtures of grasses and legumes benefiting the pollinating insects.

These differences of environment are conducive to the development of a biodiversity of flora and fauna in this hitherto unwelcoming sector. The massifs at the edge of private gardens, by their density and their distance from the sea, are ideal places for rest and nesting. The diversity will allow pollinating insects to find in this park a real pantry.

SOLUTIONS

Reconfiguration of the fontainas island - Biodiversity, creation of a new ecosystem

Description :

Our solution, to meet a demand for quality green spaces, was to pay particular attention to the use of recycled materials, the biodiversity of the park, its ecosystem and water management. The document we present highlights some points of this study:

- Schematic illustration of the landscape study carried out for the park (preservation of important trees, program, selected plant structure, permeability, etc.);
 - Elevation illustration of biodiversity and topographic management of the park;
 - Photographic illustration of the vegetation, ponds and gullies of the park.
-
- Management of natural areas
 - Other



ENERGY/CLIMATE

Climate adaptation, resources conservation, GHG emissions

The energy performance of the envelope will help to face climate change with high resilience to future climate change.

Thus, the very high level of insulation of the envelope (passive certification) makes it possible to withstand very cold weather while efficient management of various forms of sunscreen and enhancement of the inertia of the building will effectively fight against periods of heat wave.

Energy mix

The project is innovative from an energy point of view with a heat network powered by cogeneration Overview:

The project is Passive, attentive to all the principles of energy performance, eco-construction and sustainable development that the designers have integrated from the first sketches of the project, it allows an optimization of the physics of the building and the techniques installed via the passive certification PHPP tools (the calculations of the BNEC <15 kWh / m² are carried out with the PHPP and will be certified by the PMP and the IBGE).

Architecturally, the buildings are compact, attentive to thermal inertia for summer comfort, well insulated (about 20 to 30 cm for the walls, and about 25 to 35 cm for the floors and floors). roofing), well-placed, well-oriented, with well-designed openings to provide abundant natural light, with triple-glazing super-low emissivity (to reduce drastically thermal bridges) and external blinds for optimal comfort against overheating. At the construction level, the project favors prefabrication, the use of recycled materials, low ecological footprint, local and / or natural materials, chosen among the most energy-efficient, the most easily recyclable, requiring minimal maintenance, and less harmful for the same performance. At the technical level, buildings provide:

- ventilation by a high efficiency double flow system with heat recovery with a bypass system of the exchanger, allows in summer (when the outside temperature will be lower than the internal temperature) to ensure free-cooling;
- high-performance insulation and airtightness (<0.6 n50 / h) with blower door test;
- heat production through co-generation and semi-centralized condensing boilers;
- optimization of electricity consumption by economical artificial lighting well studied;

At the level of energy production and yields:

Both B612associates and the MK Engineering office have carried out an economic and environmental study to develop the semi-centralized management of a heat network powered by cogeneration and condensing boilers. heat near the consumers (limitation of the losses related to the loops of circulation) without having inconvenient of invoicing. Condensing boilers (with a minimum efficiency of 105%) are accompanied by cogeneration (with an overall efficiency - heat and electricity - of at least 92%). Furthermore, the heat exchangers of the ventilation units (collective dual-flow ventilation system with hygroscopic wheel heat exchanger allowing a recovery of the humidity in order to keep a good quality of the air) guarantee as for them a yield of 80% at the lowest.

Total electricity needs of the project area /year

Total electricity needs of the project area /year :36 242,00 kWh

Total electricity production of the project area /year

Total electricity production of the project area /year :30 000,00 kWh

BUILDINGS

Buildings

The project is innovative from an urban point of view

In the immediate vicinity of the most important heritage areas in the center of Brussels, the intervention site of Fontainas islet resulted from the demolition of the Phillips factories. The urban question to be solved was to enhance the lungs of greenery offered by the park and rebuild the disused urban fragments. The site in its initial state, although vast and endowed with some sporting equipments, constituted a succession of devalued spaces in a context with very heterogeneous sizes. The expected urbanistic response was the reconstruction of the closed classic island of the historic city to cover the open wounds due to the economic and social disparities of the place. The proposed town planning solution, however, worked against the closing of the site, choosing not to enclave but to articulate an open morphology. Urban continuity is generated not by the building but by the generated open spaces. The perspectives, the fluid paths create a porous island crossed by a real park, a public space made of biodiversity, which reconciles human, vegetable, built ... and which by this gesture connects the neighborhoods around.

The project establishes a new urban pole resulting from a landscape and urban planning

The district Fontainas park is anchored in a dense urban fabric: an important potential of activities, local life, meetings, social exchanges ..., At the crossroads of the green meshes and structuring axes of the pentagon, the Islet Fontainas is a green lung in the Brussels urban landscape. It is at the heart of a network of mobility, proximities and important intensities: public, educational, and commercial functions are numerous, it is less than 15 minutes walk from nearly 60% of the pentagon, and between metro lines and important buses lines. The redevelopment of the Fontainas Park intensifies intra and inter-neighborhood links and creates a new urban pole that stimulates life, social exchanges, mixed activity areas, and so on.

The project is innovative from an architectural and structural point of view

The project proposes the construction of singular buildings whose careful implementation allows to dress the blind adjoining the site and to re-balance the volumes of the city. The varied and open program of the project (housing, childcare, sport, hospitality, multi-purpose room) is expressed in a contemporary and dynamic architectural language that reflects the changes in society towards more flexibility, social mix, urban and landscape to stimulate neighborhood life and urban cohesion. The shape of the buildings is part of this energy. In this way, the slanting walls of the buildings allow to frame and enlarge the views and perspectives, to create openings through windows and balconies on the city.

They maximize the land available for the park. This volumetric and structural challenge has been meticulously studied by B612associates-architects and urban planners and the stability office Ney & Partners. It has been made possible, both in terms of design and construction, thanks to the technical innovations of BIM. The project was entirely designed in 3D model by the architects.

The project is creative and bold: a qualitative and contemporary design

B612 Associates had the aspiration to create new atypical volumes that allow a punctuation of the urban morphology of the islet according to its own needs, and assume a role of urban and landscape markers both at the scale of the park and the city . Poles of intensity that radiate, for the park and for the district, between which flows the extent of the Park in a fluid way, like the ocean or the dunes between the isolated rocks. The details of the materials and the colors are neat: calpined slates on a rhythm gradually tightened towards the sky, perforated plates playing with the shades and the light, melted luminous tones in the park ... The project establishes an architectural and urban identity original and coherent in a rich and complex urban environment.

Contest

Building candidate in the category



Grand Prix Ville Durable



Prix du public

