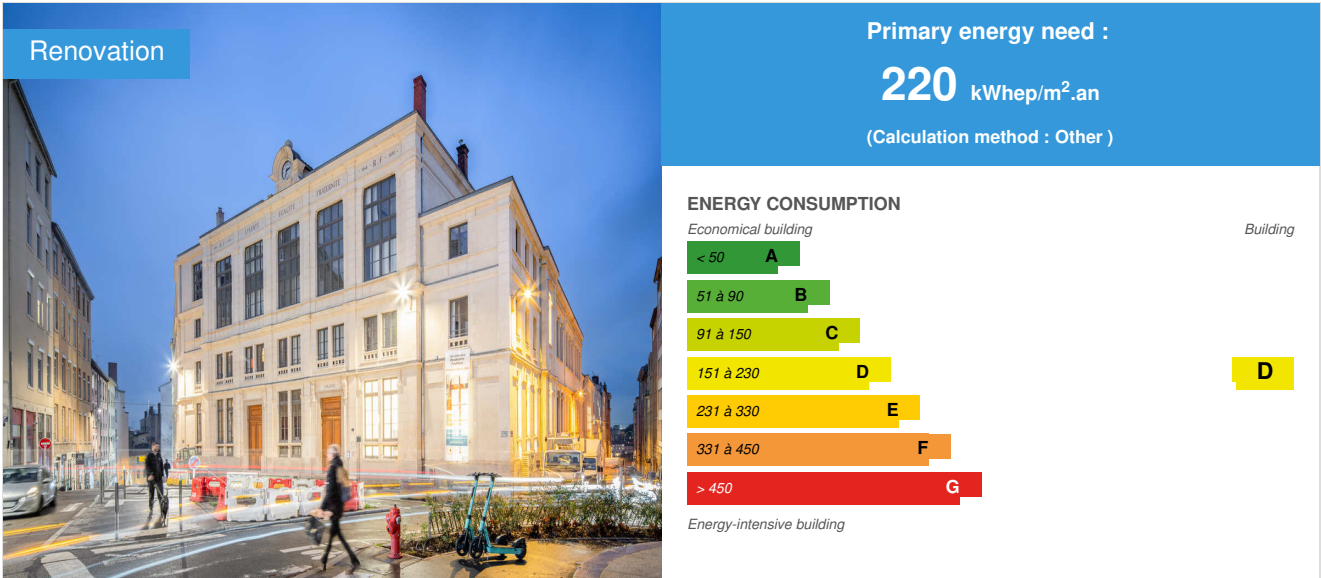


Reconversion of Truffaut high school

by Katell GUILLEMOT / 2023-06-05 00:00:00 / France / 627 / FR



Building Type : Student residence
Construction Year : 1887
Delivery year : 2022
Address 1 - street : 4, place Lieutenant Morel 69001 LYON, France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 5 473 m² Autre type de surface nette

General information

The site of the former Truffaut College was built between 1884 and 1887 under the direction of architect Prosper Perrin. A building with remarkable architecture, it has been entirely devoted to teaching since its opening in 1887. The establishment closed its doors in 2013 and has since been decommissioned. In this context, the Metropolis of Lyon, owner of the premises, wished to initiate the reconversion of this site, the project of which should lead to the writing of a new page for this emblematic building, while extending its initial vocation in favor of youth.

Linkcity Sud-Est, associated with SACVL as an investor, and its team of partners (Hirundi, Lyon BD, Les Petits Chaperons Rouges and AFEV), have won the call for tenders from the Métropole de Lyon for transform the site, based on the designs of the architects BAMA and ARCHIPAT who will bring this former school building back to life. The work will be carried out by teams from Bouygues Bâtiment Sud-Est. It's a real renaissance that was thought for the former Truffaut college, called to open up to the neighborhood thanks to a program consistent with the neighborhood.

Several axes guided the creation of this project:

- **A qualitative rehabilitation of a heritage building;**
- **A program aimed at young people to keep its historical vocation;**
- **A place of life and animation of the district easily appropriated for the Lyonnais.es.**

The benefits of the project are varied:

1. *On the economic level:* This will make it possible to generate economic activity on the site, while creating jobs but also to increase the residential, commercial and tourist attractiveness.
2. *On the environmental level:* The life of the building is extended and some of the materials already existing and still in good condition are valued.
3. *On the societal level:* The project encourages the creation of a territorial identity around the place considered as a place of life and cultural activities. This requalification of common spaces makes it possible to respond to current aspirations and needs by promoting the creation of social ties.

The key figures of the project

In terms of accommodation

- A 100% social student residence: 65 studios and 4 flatshares;
- A hostel (youth hostel) with 45 rooms ranging from 2 to 18 beds including a total of 201 beds.

In terms of business premises

- A locavore bar-catering offer respecting the seasonality of the products and in a zero waste approach of 200 square meters, proposed by Hirundi (creator of authentic hotels);
- Rooms intended for associative activities managed by the town hall of the 1^{er} arrondissement of Lyon;
- A lively courtyard open to the public during the day;
- A private crèche with 20 cradles;
- A graphic college and the offices of the "Lyon BD organisation" association.

In terms of reuse

In situ:

- 15.3 T of materials reused;
- 100% of the solid wood flooring was removed and reused;
- 30% of the period carpentry preserved.

Ex situ and reused by associations:

- 100% of the benches of the former chemistry laboratories;
- Electrical equipment (lights, panels, sockets);
- School development equipment (cabinets, pegs, blackboards, etc.).

If you had to do it again?

Several brakes and difficulties encountered during the operation could be improved.

- Anticipation of deadlines: It took a little over a month to carry out the diagnosis, for the integration of the elements to be kept and reused in situ as well as for the identification of the buyers.

- Optimization of the storage and logistics approach: The entrance porch to the site was tight and the storage area was limited.

- Optimization of the process of finding buyers/depositors: The process of identifying buyers was long and the visit and recovery of materials took place at the same time as the preparations for the site.

Photo credit

Nicholas Grosmond

Stakeholders

Contractor

Name : Linkcity Sud Est

Contact : +33 4 13 64 18 18

<http://www.linkcity.com>

Construction Manager

Name : Groupement d'architectes composé de BAMAA ARCHITECTES et ARCHIPAT

Contact : 04 82 53 87 99

Stakeholders

Function : Company

Bouygues Bâtiment Sud-Est

04 13 64 18 18

GENERAL COMPANY PROXY

Function : Environmental consultancy

NERCO INGENIERIE

04 78 66 44 25

BET FLUIDS AND SSI

Function : Structures calculist

IBATECH

contact[a]ibatech.fr

Thermal consultancy agency - STRUCTURE

Function : Other consultancy agency

B INGENIERIE

contact[a]b-ingenierie.fr

Thermal consultancy agency - VRD

Function : Structures calculist

EXACT ACOUSTIQUE

contact[a]exact-acoustique.com

Function : Environmental consultancy

Socotec

CONTROL OFFICE

Function : Environmental consultancy

ECOMETRIS

contact[a]ecometris.fr

Economist

Function : Environmental consultancy

SOCOTEC

04 72 11 45 00

SPS COORDINATOR

Contracting method

Off-plan

Type of market

Not applicable

Other type of market

Construction lease / VEFA and BEFA

Allocation of works contracts

Build and sell construction

Energy

Energy consumption

Primary energy need : 220,00 kWhp/m².an

Calculation method : Other

Breakdown for energy consumption :

- Heating: 281051kWh
- Domestic Hot Water: 128505 kWh
- Cooling: 0kWh
- Lighting: 8499 kWh

- Auxiliaries: 20754 kWh

The residence has an estimated consumption of 220 kWh/m².year, i.e. a DPE D.

Renewables & systems

Systems

Heating system :

- Gas boiler
- Water radiator

Hot water system :

- Gas boiler

Cooling system :

- VRV Syst. (Variable refrigerant Volume)

Ventilation system :

- Single flow
- Double flow heat exchanger

Environment

Biodiversity approach

Flower meadow planting.

The specificities of the site (presence of balms) forced us to keep the courtyard in asphalt.

Urban environment

The Truffaut College is located in the 1^{er} arrondissement of Lyon, in a dense urban center.

Through its programming, the project will offer activities open to the neighborhood that will help to bring it to life.

Costs

Circular Economy

Circular economy strategy

Phase in which reuse has been integrated : Programming

Type of circular economy strategy implemented :

- Maximization of the mass of waste avoided

Integration of reuse into the written contract documents :

Validation protocol for reused materials : No

Validation protocol for reused materials :

The project only provided for outgoing reuse, a validation protocol was not necessary.

However, transfer agreements have been drafted and signed between the purchasers and the general contractor (Bouygues Bâtiment Sud Est).

Reuse : same function or different function

Batches concerned by reuse :

- Locksmithing-Metalwork

- o Indoor joineries
- o Outdoor joineries
- o Electricity
- o Heating ventilation air conditioning
- o Plumbing
- o Landscaping
- o others...

For each batch : Reused Materials / Products / Equipments :

The materials, equipment and products that have been re-used, re-purposed or conserved all come from the Truffaut college:

Material/ Product	Gross quantity/unit of measure	Area of use
Wood windows	10/ U	Reuse
Wood windows	45/U	Conservation

External joinery

Material/ Product	Gross quantity/unit of measure	Area of use
Solid wood door, interior	2/U	Reuse
Solid wood door, interior	32/U	Reuse

Intrior joinery

Material/ Product	Gross quantity/unit of measure	Area of use
Steel plate	4/ U	Reuse

CES

Material/ Product	Gross quantity/unit of measure	Area of use
Burglar bars	6/U	Reuse
Exterior bars	2/U	Reuse

Locksmith

Material/ Product	Gross quantity/unit of measure	Area of use
Chemistry benches	9/ U	Reuse
Desks	2/U	Reuse
Wooden cupboard	1/ U	Reuse

Furniture

CVC

Material/ Product	Gross quantity/unit of measure	Area of use
Hot water tanks	2/U	Reuse
Hot water tank	1/U	Reuse
Console-mounted cast-iron radiators	130/U	Reuse
Floor-mounted cast-iron radiators	14/U	Reuse

Material/ Product	Gross quantity/unit of measure	Area of use
Metal hooks	20/U	Reuse
Notice boards	3/U	Reuse
Blackboards	5/U	Reuse
Espaliers	5/U	Reuse
Spotlight curtains	2/U	Reuse
Vat	1/U	Reuse
Bell	1/U	Reuse

Rulers	10/U	Reuse
Yellow square	2/U	Reuse

Various

Material/ Product	Gross quantity/unit of measure	Area of use
Eviers	2/U	Reuse

Plumbing

Material/ Product	Gross quantity/unit of measure	Area of use
Switchboard	4/U	Reuse
Taken	10/U	Reuse
Cable ways	2/mL	Reuse
Ceiling lamp	12/U	Reuse
Chute, switch	3/mL	Reuse
Neon tubes	12/U	Reuse
Support + Neon tube	13/U	Reuse

Electricity

Reused materials rate :

On the site of the Truffaut college, three modes of reuse have been identified:

- Conservation of materials to integrate them into the final project.
- Searching for reuse channels to identify buyers: associations, professionals, individuals.
- Reuse of furniture and materials to fit out the living quarters of the construction site and the quarters of the workers and subcontractors.

About 40 types of materials were kept on site or taken up by reuse channels:

- **Conservation** : Wooden windows, exterior doors, fireplace mantle, stone steps, cast iron radiators, wall bars, benches, etc.
- **Reuse (ex situ)** :
 - Wooden windows, exterior doors and interior doors
 - Burglar bars
 - Washbasins and sinks
 - Electrical equipment (sockets, cable trays, EC tanks, electrical panel, lights),
 - Blackboards, projector curtains, chemistry benches, wooden cabinet
- **BBSE work layout**: Chemistry bench, pegs, tables. Transformation of former toilets and sheds into cantonments for the companions.

The buyers of the materials/equipment are:

- Zephyr workshop
- Frédéric MATT
- Creact'IV Sciences
- Lyon - Truffaut College
- Emmaus workshop

All the materials that have been reused come from the Truffaut college, but have different final destinations, as can be seen in the table below:

<https://www.construction21.org/france/data/sources/users/20240/20230523093206-registre.jpg>

Henry furniture:

Former school desks and an old chalk board were recovered during the clearing phase of the Truffaut college site by the Emmaüs workshops. This equipment was used in the manufacture, by apprentice craftsmen from Emmaüs, of a small modular storage unit called Henri. On February 1, 2022, Henri furniture entered the collections of National Furniture, an institution in charge of furnishing the high places of the French Republic.

Reconditioning actions for radiators and parquet:

The radiators have been cleaned (sludge removal) and repainted. As for the parquet floor, the hotel has kept it for decoration.

Logistics

Rehabilitation and reconditioning operations (if project concerned by a cleaning/demolition stage) : Yes

Storage of materials for reuse in situ (if project concerned by a cleaning/demolition stage) :

- On site, on a dedicated area in a covered location

Insurance

Consultation of the technical controller : No

Insurance broker on the project : No

Consultation of the broker : No

Consultation insurer : No

Discussion with the insurer :

No discussions with the insurer or with the control office because the subjects of reuse were included in the overall DO CNR of the site.

Environmental assessment

Impacts avoided : water, waste, CO2 :

The reuse operation saved the equivalent of 408,495 kilometers traveled by a small car, or 464 Paris-Nice journeys, 24,416 rectangular bathtubs filled with water and 93 years of household waste for a Frenchman.

<https://www.construction21.org/france/data/sources/users/20240/20230521211623-tableau.jpg>

Communication

Communication on the process : Yes

If so, please specify :

Articles, press releases, press conference and communication on LinkedIn.

- <https://france3-regions.francetvinfo.fr/auvergne-rhone-alpes/rhone/lyon/lyon-desaffecte-depuis-2013-le-college-truffaut-se-transforme-peu-a-peu-2007796.html>
- https://www.linkcity.com/wp-content/uploads/2021/03/Dossier_Presse_Truffaut_VF.pdf
- <https://mairie1.lyon.fr/actualite/patrimoine/le-college-truffaut-un-nouveau-lieu-de-vie-creatif-et-solidaire>

Project visit : Yes

Social economy

Social economy and professional integration :

Several structures of the ESS participated in this project:

Minéka, whose mission was to support Linkcity's circular economy approach. Minéka's mission was to carry out a resource diagnosis and an awareness-raising workshop for companies.

The Atelier Emmaüs (Lyon) is a structure of the Emmaüs Movement, with a mission of socio-professional integration, through crafts and design. The Henri furniture produced in Lyon by the Atelier Emmaüs is now part of the collections of the Mobilier national, an illustrious institution which has ensured the transmission of exceptional know-how for more than 300 years, in the service of its mission of furnishing of official palaces. Henri consists of pieces cut from old school desks salvaged from Truffaut College and an old chalk board.

Circular design

Responsible consumption :

The rehabilitation rather than the demolition/reconstruction of the Truffaut college is an action which makes it possible to avoid sinking a new structure and thus to avoid the consumption of materials. Beyond this rehabilitation, several materials, equipment and products have been reused, reused or preserved:

- 100% of exterior and interior solid wood doors are retained and reused
- 100% of the solid wood flooring will be removed and reused
- 100% of chemistry benches in good condition are reused
- 100% of cast iron radiators are kept and reused
- A lot of electrical equipment is reused (indoor and outdoor lights, electrical panels, sockets, etc.) by circular economy associations.
- Many school furnishings are reused (espaliers, blackboards and display boards, projector curtains, pegs, wardrobes) by circular economy associations

Functionality economy :

Hybridization of uses:

The project hosts so-called "plural" rooms that can be reserved by neighborhood associations with activities dedicated primarily to young people, they are managed by the Borough Hall. These rooms will also host association activities and this 3 months of the year, the Lyon BD Festival.

The courtyard may also be subject to the organization of events (Example: Festival of Lights, sound nights, etc.) by the Métropole de Lyon, 30 days a year.

Extension of the life of the building:

Thanks to the conservation of the initial structure, the building of 1887 knows a new life. An exemplary rehabilitation to prolong the life of this building.

Industrial and territorial economy :

The program of activities will create connections with the neighborhood:

- The locavore bar/lounge/restaurant of the PLO hostel is open to everyone.
- The Graphic College: a complex dedicated to comics with artists' residency, including the new offices of Lyon BD Organisation.
- A crèche with 20 places, managed by Les Petits Chaperons Rouges.
- So-called "plural" rooms that can be reserved by neighborhood associations with activities dedicated primarily to young people, they are managed by the Borough Hall. These rooms will also host association activities and this 3 months of the year, the Lyon BD Festival.
- The "kapseurs", students occupying the 4 shared accommodations of the Student Residence who are engaged in the realization of solidarity actions with the district.
- A courtyard open during the day and which may also be the subject of event organization (Example: Festival of Lights, sound nights, etc.) by the Metropolis of Lyon and this 30 days a year.

This ecosystem of actors carries with energy the values of solidarity, transmission and creativity within this project. All stakeholders therefore remain attentive to the use of the place, its equipment and to create real synergies in order to benefit and benefit everyone from this atypical place. The courtyard, finally, is the centerpiece of the place. It is simple and clean. Its trees have been preserved and decorated with nesting boxes. Moreover, in order to bring vegetation to the sobriety of the old schoolyard, it is covered with berms of topsoil planted in flowery meadows which bring relief. This courtyard, a place of recreation, retains its original vocation: the central square allows access to all the places, which can be arranged for the circus, the cinema or other, and especially according to the needs of the site and the district. While remaining simple and light, the project creates a space leaving a large part of interpretation and appropriation by the users. His jobs will be invented by them. Its access is public during the day, thus responding to a desire for an opening of the site to the outside and for the outside.

Sustainable supply :

In addition to reuse, and to preserve the building located in an Architecture and Heritage Valorization Area, the Linkcity and Bouygues Bâtiment Sud-Est teams wanted to renovate the building in an eco-responsible way by selecting and proposing to use certain biobased materials. The 1800 m² of floor structure are made of solid wood and the insulation is made of cellulose wadding (recycled and biosourced newspapers). The choice of these biosourced materials contributes to the preservation of natural resources by reducing the consumption of raw materials of fossil origin. Concretely, it is:

- Cellulose wadding-based attic insulation, materials made from recycled and biosourced material (recycling of newspapers and kraft paper)
- 1800 m² of solid wood floor structure

Recycling :

During the project, the Mineka association intervened to avoid too much waste production and to propose the reuse of all the materials that can be recovered on the site. Several actions have been implemented to properly manage waste, such as:

- Identification of recovery channels (material or energy) in line with the work carried out
- Sorting at source by material by isolating in sorting bins: hazardous waste (aerosols and soiled packaging), inert waste, recoverable non-hazardous waste (wood, plastic, metals, paper/cardboard, glass, plaster), other non-hazardous waste
- Traceability of each dumpster for 100% of the waste
- Monitoring and analysis of the quantities of waste generated

Results:

This made it possible to reuse 15.3 T of materials, including 100% of the solid wood flooring, and to keep 30% of the period joinery in place.

Additional information (PDF documents)

Websites

<https://france3-regions.francetvinfo.fr/auvergne-rhone-alpes/rhone/lyon/lyon-desaffecte-depuis-2013-le-college-truffaut-se-transforme-peu-a-peu-2007796.html>

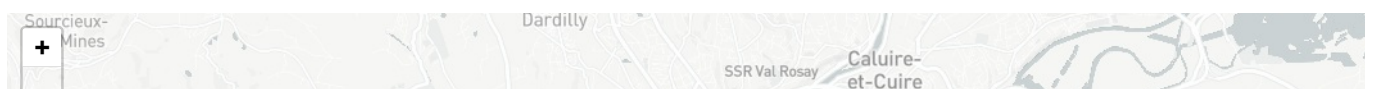
https://www.linkcity.com/wp-content/uploads/2021/03/Dossier_Presse_Truffaut_VF.pdf

<https://mairie1.lyon.fr/actualite/patrimoine/le-college-truffaut-un-nouveau-lieu-de-vie-creatif-et-solidaire>

Contest

Reasons for participating in the competition(s)

Linkcity and its partners have been able to breathe life back into Truffaut College in another form, while preserving the existing buildings belonging to Lyon's heritage. A strong approach has been taken on the project to promote the reuse of construction materials from existing buildings. An approach that is perfectly in line with the perspective of the Circular Buildings Trophies.





Date Export : 20230711162208