# CONSTRUCTION21

## **Eco-pound of the Quarante Sous (France)**

by Valentin Mention / (\*) 2022-05-24 00:00:00 / France / (\*) 1806 / 📁 FR



General information

The project aims to **relocate the car and animal pound of POISSY** (managed by the Syndicat Intercommunal à Vocations Multiples de Saint-Germain-en-Laye) and **to make it an eco-responsible project by taking into account the question of the biodiversity present on site**, the site being classified as "ecologically sensitive", i.e. at the antipodes of a pound program. The first of the steps was the search for a minimal impact on the environment of the site by preserving certain spaces in their topography, their natural state and their vocation. In the continuity of the minimal impact, we set up a process of reuse of materials, furniture and various technical equipment during the deconstruction of the old site.

Choiseul

The site is divided into three sectors. The CENTER sector organizes access from the RD113 departmental road and preserves a natural area of biodiversity. The WEST sector includes the reception of the car pound and the animal pound as well as the vehicle storage area. Finally, the EAST sector includes two drop-off areas and an area for light vehicles, as well as a long-term parking area for heavy goods vehicles and passenger vehicles. These sectors are connected by a set of rainwater retention basins. These spaces are intended to **create both buffer zones between the project and the outside, but also to obtain important qualitative landscape areas promoting biodiversity**.

The project includes two buildings, one intended for the reception of the public, accompanied by offices, premises for the staff and part of the workshop and hangars. The second has a kennel for dogs, two catteries, a veterinary laboratory, a workshop and storage space.

## Building users opinion

More suitable workspaces, the setting in a natural environment, pretty buildings and a beautiful aesthetic for a pound program.

## If you had to do it again?

Involve all the actors of the project and the construction site in a process of reuse and circularity. Include in the market the notion of reuse and the need to use it whenever possible. Select companies sensitive to reuse with a criterion that fits into the rating for calls for tenders. Because during the construction we had to call on a new company to lay the film set sheets, incur additional costs and impact the phasing as well as the completion times.

#### See more details about this project

La https://www.atelierchoiseul.com/fourriere-de-poissy/

C https://www.bfmtv.com/economie/replay-emissions/impact/impact-la-ressourcerie-du-cinema-recycle-les-decors-par-rebecca-blanc-lellouch-26-01\_VN-202201260079.html

## Photo credit

Atelier Choiseul

#### Stakeholders

#### Contractor

#### **Construction Manager**

Name : Atelier Choiseul Contact : valentin.mention[a]atelierchoiseul.com

#### **Stakeholders**

Function : Assistance to the Contracting Authority Cycle Up

 https://site.cycle-up.fr/amo-amoe-reemploi-et-economiecirculaire/#:~:text=Cycle%20Up%20a%20un%20r%C3%B4le,et%20la%20r%C3%A9utilisation)%20au%20d%C3%A9cyclage.
Project management assistance Reuse

Function: Other consultancy agency ALBERT & CO

C https://albert-and-co.fr/ Assistance to the work of mastery

Function : Construction Manager

Thttps://land-act.fr/accueil Landscaper

Function : Thermal consultancy agency GINKO & ASSOCIES

C http://www.groupe-sodeba.com/sodeba-ginko BUT Function : Company Eiffage Route - Ouest Normandie

https://www.eiffageroute.com/

Lot 01 - VRD

Function : Company SOMMA FRERES

C\* https://www.somma.fr/ Lot 03 - MAJOR WORK FOUNDATIONS

Function : Company LES CHARPENTIERS DE L'ATLANTIQUE

C\* https://www.lca-construction.fr/ Lot 04 - FRAMEWORK - FRAMEWORK - CLADDING

Function : Other consultancy agency INGETEC

C https://www.ingetec.fr/ VRD study office

Function : Company GENERAL METAL EDITION

Lot 4C - EXTERIOR JOINERY LOCKS

## Contracting method

Separate batches

## Type of market

Global performance contract

Energy

## **Energy consumption**

Primary energy need : 71,00 kWhep/m<sup>2</sup>.an

Primary energy need for standard building : 117,00 kWhep/m<sup>2</sup>.an

Calculation method : RT 2012

Breakdown for energy consumption : Building 1: Pound Position: Final energy; Primary energy Heat. : 20.800; 21,000 Cool. : 0.000; 0.000 Ecs: 0.900; 2,200 Flash. : 10.400; 26,800 Aux.dist. : 0.500; 1,200 Aux.wind. : 3.100; 8,100 Building 2: Reception Position: Final energy; Primary energy Heat. 25.200; 25,300 Cool. 0.000; 0.000 Ecs 5,100; 13,200 Flash. 7,500; 19,300 Aux.dist. 0.400; 1,000 Aux.wind. 4,400; 11,400

## Envelope performance

Envelope U-Value : 0,19 W.m<sup>-2</sup>.K<sup>-1</sup>

#### More information :

Composition of the main envelope - EXT WALL CLADDING: Wood cladding + METISSE wool + PV + METISSE wool lining + BA13 / wood panel

Renewables & systems

Systems

- · Gas boiler
- Water radiator

#### Hot water system :

Individual electric boiler

#### Cooling system :

No cooling system

#### Ventilation system :

• compensated Air Handling Unit

#### Renewable systems :

No renewable energy systems

#### Environment

#### Urban environment

Land plot area : 33 110,00 m<sup>2</sup>

Built-up area : 2,45 %

Green space : 19 800,00

The project is located in the town of Poissy in the Yvelines department (78), northwest of Paris and south of the loop of the Seine in Carrières-sous-Poissy.

The project base covers an area of approximately 4 hectares. It is part of a sector strongly linked to water thanks to the proximity of the Seine, but also close to major roads. Indeed, the project is at the crossroads of two departmental roads RD113 and RD30 to the south and east, and the A14 motorway to the north.

The project is set up in a natural area, said to be eco-sensitive, with areas of biodiversity that have been preserved.

#### Products

#### Product

Métis

LE RELAIS

metisse[a]lerelais.org

#### http://www.isolantmetisse.com/

Product category : Finishing work / Partitions, insulation

Métisse® is a range of thermal & acoustic insulation in recycled cotton for construction. It insulates against cold and heat, but also against noise. It has exceptional acoustic properties thanks to the cotton that composes it. Due to the short production cycle, the materials from the French sector and the manufacturing quality, Métisse ® insulation is the first biosourced insulation made from recycled cotton to obtain the "Label Product Biosourced – French Sector".

Technical characteristics : K = 0.039 W/mk100% recovery thickness Cp = 1,600 J/kg.K Phase shift = 6 to 8 h (on a thickness of 200mm) Absorption up to 95% of sounds Attenuation greater than 68 dB for a SAD180 partition with BA13 facings

Price of the Métisse insulation is between 10 - 25€ HT/m<sup>2</sup> depending on the thickness.

No particular observation, ease of implementation like wood wool or glass wool.

## Costs

## Construction and exploitation costs



#### Additional information on costs :

The choice of a wooden frame generated an additional cost compared to the traditional steel and concrete alternatives generally used for this type of building. In addition, the site's poor soil quality required additional effort to be invested in soil preparation and foundations.

## Circular Economy

## Reuse : same function or different function

#### Batches concerned by reuse :

- Locksmithing-Metalwork
- Indoor joineries
- Landscaping

#### For each batch : Reused Materials / Products / Equipments :

Interior joinery :

- Wood panel for interior cladding: 400m<sup>2</sup>
- Locksmith-Metallery :
  - Exterior steel mesh door: 40 units
  - Steel grid: 20 units
  - Steel hatch: 20 units
  - Railing: 6mL
  - Cattery: 2 units

#### Outdoor facilities :

- Gabions: 8 units
- Spoil soil: 100%
- Topsoil: 1300 m3
- Field of use and material origin :

#### Wood CP panels (decor sheet) :

• purchased from *La Ressourcerie de Cinéma* and taken from a film set at the Montjoie studios in Saint-Denis, reused for interior trim. Locksmith-Metallery :

- Mesh exterior doors: from the deconstruction of the old pound, reused and reused as mesh partitions
- Steel grids: from the deconstruction of the old pound, reused
- Steel hatches: from the deconstruction of the old pound, reused
- Railings: from a donation from GME, from a construction site in Montreuil (deconstruction), reuse of various metal frames and locks.

#### Outdoor facilities :

- Gabions: from the deconstruction of the old pound, reused
- Spoil earth: 100% backfilled on site
- Topsoil: 1300 m3 treated and sorted on site and reused in green spaces.

## Environmental assessment

#### Impacts avoided : water, waste, CO2 :

#### CO2 avoided (kg)

Categories Outdoor Facilities	CO2 avoided (kg) 7354.916172	Water consumption avoided (m3) 183.8308802	Waste avoided (kg) 7328.419765	
Landscaping / Locksmithing - Metalwork	0	0	0	Economic assessment Total cost of reuse : 27 000 €
framework	0	0		Cost of reuse in percentage of the operation : 1 %
Partitions	0	0	0	
Cover	127.1462266	0.608561893	3.558622349	
Roofing / Outdoor facilities	0	0	0	
Lightings	0	0	0	

0	0	0	
HVAC equipment	0	0	0
Electrical equipment	0	0	0
facades	3961,30991	1135.613523	3487.186127
False ceilings	0	0	
Raised floors	0	0	0
False ceilings	0	0	0
Big work	17086.9166	35.1456092	14608.9866
Sanitation facilities	0	0	
Insulation	0	0	0
Exterior carpentry	13389.75	132,363	9929.374868
Interior joinery	0	0	0
Furniture	314.7768669	6.632090108	570.3222792
Paint	0	0	0
Plumbing	0	0	0
floor coverings	0	0	0
Floor or wall coverings	12.3726	0.027064	156.7511017
0	0	0	· · · · · · · · · · · · · · · · · · ·
building security	0	0	0
Locksmithing -			
metalwork	3476.582159	22.02291944	3968.781944
VRD	0	0	0
	Water consumption avoided (m3)	Waste avoided (kg)	
TOTAL	45723,77053	1516.243648	40053,38131
	km by small car	Number of rectangular bathtubs	number of years of household waste of a French person
Equivalent	365790	10108	80
	•		
Equivalent trip Paris- Nice	416.0		
The reuse operation sav	ed the equivaler	nt of 365,790 kilomete	ers traveled by a small car,

i.e. 416 Paris-Nice journeys, 10,108 rectangular bathtubs filled with water and 80 years of household waste from a Frenchman

## Social economy

#### Social economy and professional integration :

The company "Travail et Vie" was commissioned to collect, transport and install the reused and reused materials for the *exterior joinery* lot, as a subcontractor of the GME company in charge of this lot. "Travail et Vie" aims at the professional and social reintegration of people temporarily excluded from the world of work and living in a precarious situation.

*Métisse* thermo-acoustic insulation was used to insulate all of the vertical walls and partition linings (1,900m<sup>2</sup>). In addition to being a material resulting from the recycling of clothing, it is insulation which is produced by the company LE RELAIS which also acts for the integration of people in situations of exclusion (member of Emmaüs France) through the collection / recovery of textiles.

## Health and comfort

## Indoor Air quality

Use of "PREGYROC AIR" pie plates for vertical partitioning and false ceilings, a product that purifies the air and absorbs approximately 80% of formaldehyde (volatile organic compounds).

## Carbon

## **GHG** emissions

GHG in use : 6,00 KgCO<sub>2</sub>/m<sup>2</sup>/an

Contest

#### Reasons for participating in the competition(s)

L'Eco-fourrière de Poissy est un projet ambitieux du point de vue environnemental. Il inclut la prise en compte de l'écosystème et de la biodiversité existante, une démarche d'insertion par le travail, et une recherche sur le réemploi de matériaux de construction et d'équipements de sa conception à sa réalisation.

Un premier travail de réemploi in-situ, sur l'ancienne fourrière, a été réalisé avec une AMO réemploi ce qui a permis d'identifier les ressources disponibles et valorisables. Mais aussi ex-situ avec la recherche de nouveaux partenaires "sourceurs" qui a débouchée sur une initiative innovante en allongeant la durée de vie des matériaux issus du cinéma, valorisable dans le milieu du BTP, permettant ainsi de limiter le bilan carbone du projet.

Ce projet nous permet également de montrer les possibilités des ressources issues du réemploi, de faire connaitre cette filière et de nouveaux sourceurs, à l'image de "La ressourcerie du Cinéma" auprès des acteurs du BTP. Mais aussi de démocratiser et d'inciter à l'innovation pour une nouvelle façon de construire.

Concourir à ce trophée est également une façon de valoriser le travail effectué, face aux difficultés rencontrées, d'apporter notre reconnaissance à tous les acteurs du projet qui ont démontré que c'était possible.

## Building candidate in the category



Prix du public



Date Export : 20230329052309