SUSTAINABLE ARCHITECTURE DESIGN STUDIO BRUSSELS UNIVERSITY DISTRICT AND THE SOLBOSCH CAMPUS

DESIGN STUDIO, MA-1

BRUFACE - ULB + VUB - 2020/2021

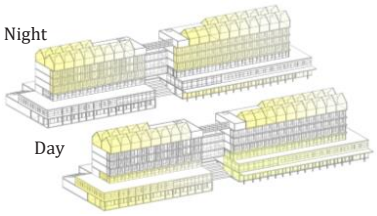
THE F VILLAGE (BUILDING F)

STUDENT:
SARAH TRENTIN

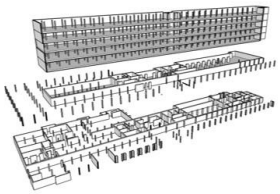
Concept - Creation of a "city" and community in the campus

Multifunctional building

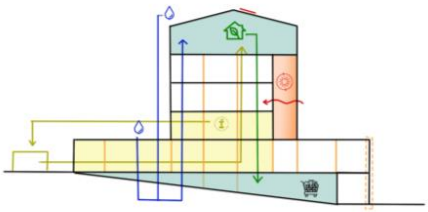
Used at any time



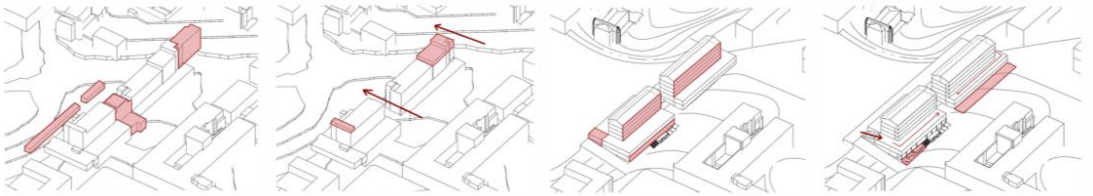
Valorization of the existing



Management of the flow



Evolution of the volumetry



- Existing situation
- Long building
- Fragmented facade

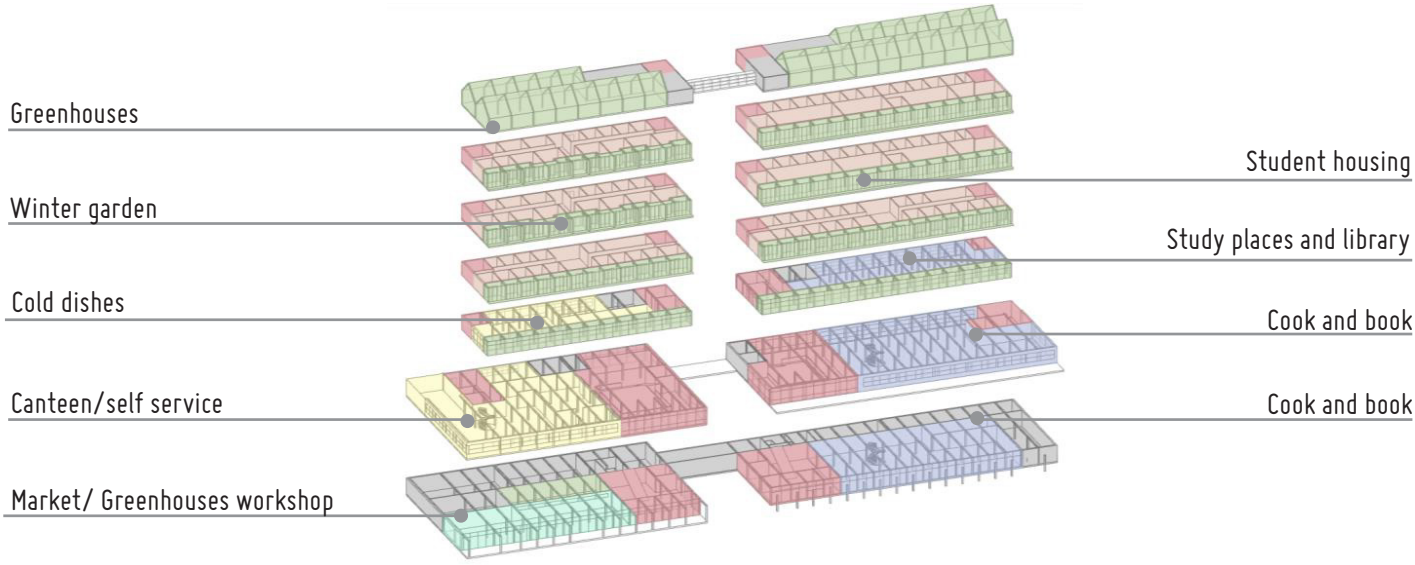
- Remove the centre
- Remove the prefabricated buildings

- Uniformity of the facade
- Addition of greenhouses

- Winter garden
- Terraces on the top of the first level
- Stepback of the facade

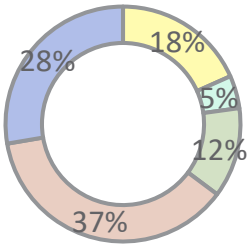
Implementation plan

Program



- Food : 1 630 sqm
- Shops : 400 sqm
- Mixed use : 2 460 sqm
- Student housing : 3 300 sqm
- Greenhouses : 1 100 sqm
- Circulation/hall
- Technical space

Distribution of functions



The F village is a retrofit of the F building. This project aims to create a "small city" and a space of community on the campus. The existing building is implemented in a key position on the Solbosch Campus due to its central situation and its frequented area. There will be four main strategies to develop the goal of the project. The first one will be to create a multifunctional and adaptable building which will include eating spots, study spaces, libraries, a market, student housing and greenhouses. The second strategy is to have a building that works not only during the class periods but all day and all year. The third one is the valorization of the existing building by keeping the current structure and part of the building. Finally, the management of flows will be integrated into the building including food, energy, waste, water and materials.

All these strategies have led to an evolution of the existing volumetry to improve the current situation. Since the F building has a quite long facade, the first step aims to divide the building into two connected parts while letting a passage on the ground floor to connect two main places of the campus, the Paul Héger avenue and the green open space. It will create a new passage to obtain better connection in the university. The second step will consist of modification of the facade to obtain a uniformity instead of the existing fragmented facade. The third step will tackle the energy flow by adding greenhouses on the roof and winter gardens on the south facade. The last step has for purpose to create terraces on the top of the first level to optimise the unused space. To obtain adaptation of the building, there will be three different typologies of student housing. The first one is similar to the existing accommodations which consist of having one room for one student with shared kitchens and bathrooms. The second one is also a room for one student but with an integrated bathroom and kitchen. The last typology is a creation of colocation for 6 to 8 students that will include common spaces with a double-height level.

Finally, sustainable strategies are established notably through the addition of greenhouses on the roof that will provide food for the market and will reduce CO2 emissions. Then, the organic waste of the market and restaurants will be used in compost which will serve the greenhouses. In addition to that, water will be collected and stored for the greenhouses and photovoltaic panels will be added to the roof of greenhouses to provide energy for the building. Concerning the materiality, the structure and floors will be kept as well as the upper façade. Regarding the rebuilt part, there will be covered by panels made with brick and concrete waste coming from the partial demolition.

Implemantation

Plans

Level 2

Level 1

Level 0

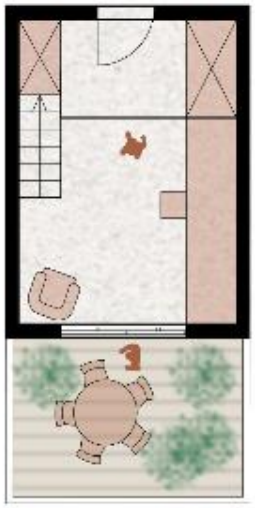
Student housing

Level 5

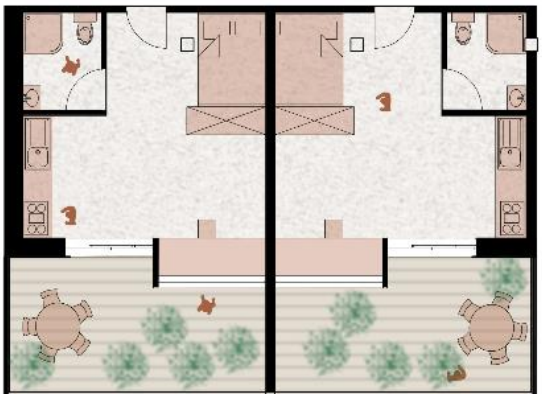
Level 4

Level 3

Typology 1



Typology 2



Typology 3

Level 4

Level 5

Elevations

North façade

South façade

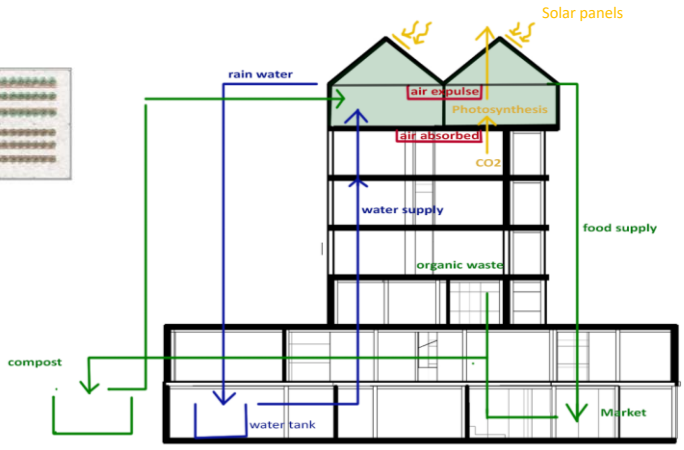
Sections

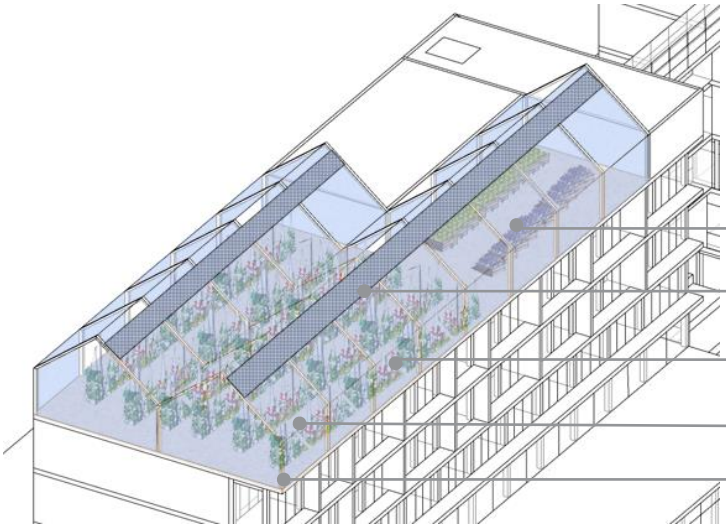
Transversal section

Longitudinal section

Greenhouses

Roof plan





Tray culture (Carrot, potatoes)

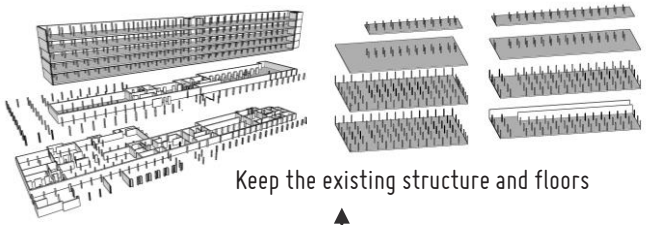
PV-Panels

Hydroponic culture (Tomatoes, lettuce, parsley, brocoli, bean)

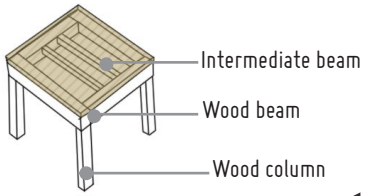
Tempered-glass

Aluminium

Materiality



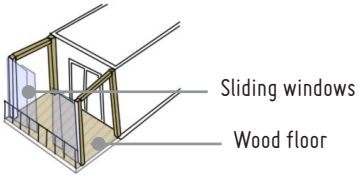
Keep the existing structure and floors



Intermediate beam

Wood beam

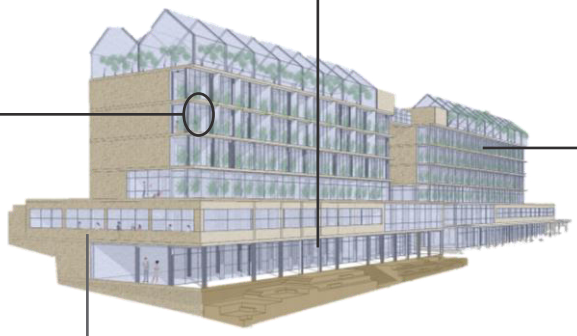
Wood column



Sliding windows

Wood floor

Additional wood structure



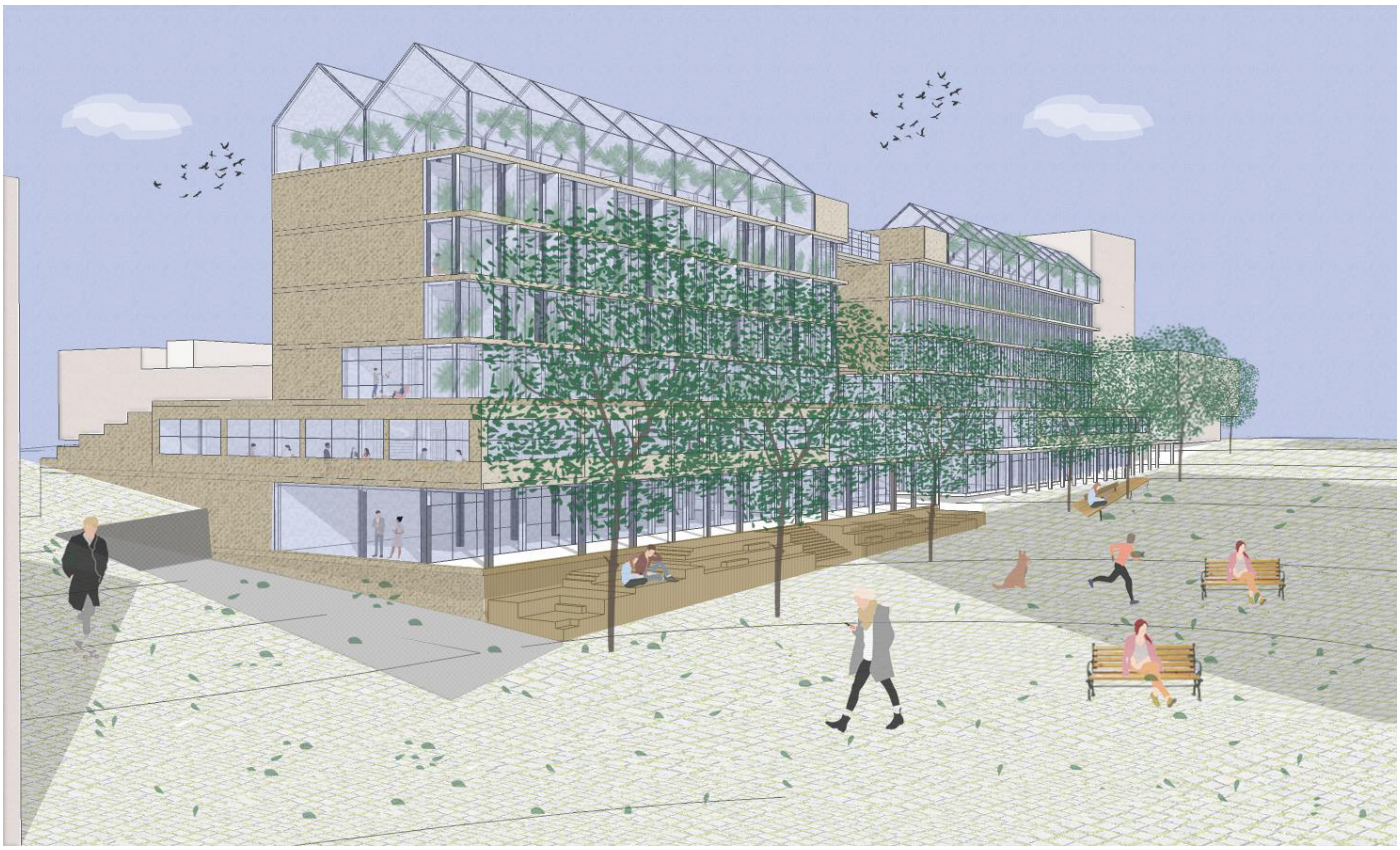
Existing façade
-> windows enlargement

Brick and concrete waste
from the partial demolition

Facade panels attached to
the façade of the renovated
building

Views

Open space



Paul Héger avenue

Connection between Paul Héger and the green open space

Inside stairs

Outside stairs

Terrace

Cantine