

# SECOND FLOOR ΡLAN SCALE 1:200



#### Long term ecological sustainability, energy concept

Throughout the design of the building it was important that the development of an interior comfort with minimal impact on the environment and natural design. Proper functioning of the building in mind when installing the connections and the function is to minimize the unnecessary loads, moving from inside the building. As far as possible, taking into account the functions and, where possible, natural light was used to ensure adequate comfort. The whole southern area, we used a transparent structure, however, appropriate steps were applied (shading, bivalve facade) the excessive warming.

The cooling, heating and energy production from renewable energies, operations management solutions, we assist in making cost-effective long-term operation.

The directory must be strictly observed the rules or even establish the ventilation was improved, the enlighting, the lighting and heating can be controlled to enable readers to feel a healthy environment.

Used solutions

## ECOLOGICAL CONCEPT



#### 01

Outdoor pre-tempered air is used the way to pump the external air in 5 to 10 m deep in the soil pipe long circulated system- within the planning area, in the southeast, next to the bicyle parking space - and then when it enters in the building it is colder in summer, warmer in winter so it can chang the comfort levels, chilled / heating of the interior conditions . The internal flows due to the warm air trying to keep up roof window, which by design (glass thickness, color and heat throughput) for assisting in the maintenance of internal suction, it creates a suction that pulls the pipe below the intake of fresh cool air. The effectiveness of the systemis helped by engineering equipments.

## 02

The bookstores' lack of heat "is also an important factor. As well as this is a darker, more closed space located within the walls and ceiling structure, and especially the weight of books stored in it big time shift react for the temperature changing. If the horizontal load-bearing structure is fulled with tubes, at the public space, with a closed system with circulating pump to be able to create a chilled/heating system, which has a similar effect as the ground heat exchangers resulting in more cost-effective solution.

#### 03a

Shade structures were designed in front of the large transparent surface on south facade that is partially filtered sunlight while ensuring the efficient operation of the photovoltaic glazing surfaces - onyxsolarsystem - access to sufficient sunlight in order to help the building for the operation of power/energy generation.

## 03b.

Same here, behind the shield of bivalve ventilated facades was dessigned, which is more favorable climate for the building insideinspite of the larger glass area (natural light) .

#### 04.

In consequance of the huge smoth surface of the roof we plan to collect rain water on large part of the roof surface for cooling of the housing, and using it for sanitary flushing.



#### WALLS

LOAD-BEARING STRUCTURE \_\_\_\_\_ DRYWALL SYSTEM SOUNDPROOF DRYWALL SYSTEM

## SURFACES



PAVEMENT





B-B SECTION SCALE 1:200