

SUMMARY

The depth of the building envelope allows you to set the connection between the inner and outer spaces, thus becoming a surface capable of controlling, enabling and adapting. In other words, controlling the energy movements through its surface, enabling the interchange, and adapting itself to different needs. By this means we introduce the main focus of this research: **integrating the building envelope design within the transformation process for Lake Grove Village**. Built in the 1960s, the Chicago-based residential buildings are characterized for the use of a prefabricated modular system that creates a scenario with possibilities for transformation. To do this, there are four concepts that drive this project.

In first place, the technique. The concept of technique appears as a study tool that allows us to think about its use within the prototype selected for the project - the tall building in Chicago - and also allows us to understand the possibilities its use offers for the renovation project proposed. Choosing the tall building as the prototype is due to the fact that it represents an example of new scenarios for the building envelope at different eras, as well as it presents challenges and possibilities for design. This establishes the basis upon which to study the three other concepts: the building envelope, its adaptability, and its development towards a more energy efficient scenario.

Secondly, the energy efficiency. The concept of energy efficiency appears as a goal of the design and it is understood as a manner in which the architecture is able to respond the needs of today without compromising future ones. In the project, energy efficiency has meant the spirit in which the project has been approached towards the following: energy reduction, interior space quality improvement, and adaptability of the proposed solution. By this means the project deals with efficiency in energy usage, efficiency in the space, and efficiency in the design.

Thirdly, the building envelope. The concept of the building envelope is understood as the element that allows the relationship between the interior space, the outdoor space and the intermediate surface the delineates these. The parameters that define these facades, as well as their behaviors are used to establish the basis on which the design for the transformation of Lake Grove Village grows from. By identifying, defining and analyzing the concepts proposed, the project focuses on a wrapper that is committed to efficiency and offers adaptability.

Finally, the adaptability. This concept is both a tool and a premise of the design that is present in the original project of Lake Grove Village. Adaptability of the technical possibilities, the adaptability towards the energy requirements, the adaptability to the needs of users, spaces and, finally, the adaptability of the building envelope. Therefore, the concept, as it is understood in this project, is translating to the present what could vary in the near future. Thus, technical concepts, energy efficiency, building envelope and its adaptability are unified in the project.