

# REFLECTION PAPER

## Introduction:

This reflection paper is part of the Architectural Engineering studio. From the start of the project I was fascinated by the use of plants in the building environment, so this became the main focus of my graduation project. The graduation project started with a research about the benefits of a living wall systems on the indoor environment. The second half year the results of this research were implemented into a design.

In this reflection paper I will explain my ups and downs of my graduation year on the basis of three aspects. I will reflect on the different design approaches and decision that I made during my research and design.

## Aspect 1: The methodical line of approach of my graduation research and design

The studio follows a clear line between research and design phase. These two cannot be seen separate, but the focus in the first and second half year changes from research to design.

I had to retake the research part of the graduation studio. This was because I didn't have a clearly framed research. This resulted in a research that had almost nothing to do with architecture. The results of the research were therefore hard to implement into a concept design and this resulted into a 'no go'.

I learned that I had to frame my research better and have a clear research question. So the first few weeks of the research I used to clearly

frame my research. I started to read multiple research papers about the use of greenery on the inside and outside of the building. After the P1 presentation I found out that the research question was too broad. So I narrowed my research question to the effects of plants on the indoor environment. This helped with eliminating the research papers that were not interesting for my research question. I found out that indoor living walls and the research of their effects on the indoor environment are relatively new. This made my research relative for the current science research, because during the research new paper were being published.

During the first part of the research I found out that an active living wall could have significant effect on the indoor environment if it was used right. This was the answer of my research question, but it was hard to implement this into a design. Therefore, I decided to make a toolkit for designers as well. This helped to keep focus on the implementation of the results into the design and resulted into a coherent design where I implemented the results of the research and toolkit into my first concept.

## Aspect 2: The relationship between research and design

In the second half year of my graduation I implemented the results of my research into a design. During this period the architectural and technical part had to come together into one integrated design. I found it hard at first to not research every aspect of my design into detail. I had to focus more on the architecture and not the research.

The concept design was only based on the research conclusions, so after the P2 I also looked at the function and location of the building. From the research and location and function analysis I made clear starting points for the design. During the design phase I let the research results dominate the design of the building. Normally the surroundings are the dominant factor in my designs, but because I did my research first the results had a great influence. The starting points shaped the form of the building. Every starting point changed the form of the building into a very characteristic building. The architecture of the building therefore is really different from its surroundings. The Marine Area is a new location that needs to be activated. It is an innovative location where new ways of building can be shown and tested. This building can be seen as an example of how you can also build with greenery in cities and because of its iconic look it can activate and inspire.

During the design period I also worked out the technical aspects of the building. The integration of the construction influenced the design and shape of the building. These interactions between architecture and engineering was something I found very interesting. It took me a while, but the building finally became a coherent design where architecture and engineering came together and reinforce each other.

### Aspect 3: The relationship between the theme of the graduation lab and the subject/case study chosen by the student within this framework (location/object)

The Intecture graduation studio has three different themes, flow, make and stock. I find it difficult to couple my project to one of the three themes. I am not making a new system, but rather researched the best option for a current system. Therefore, I consider my graduation project to be more related to the make theme.

The location changed during the graduation project. I started with the idea to do a 'Beyond the current' context, but soon found out that my fascination was too expensive for social housing. Finally, I chose the Marine area. The Marine area is a test location for innovative ways of building. This location is therefore ideal for testing an innovative indoor living wall system.

### Conclusion:

The construction of this graduation studio within the first half year the research and in the second half year the architectural design has had a great influence on my design strategy. The research results have dominated the design of the building in a way that the architecture is really different from its surroundings. For the Marine Area this can be positive. The building could attract people to visit the Marine Area and therefore activate the area.