Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Jamie Bakkes
Student number	4425685
Telephone number	
Private e-mail address	

Studio	
Name / Theme	Dwelling studio - Dutch Housing
Teachers / tutors	Pierijn van der Putt & Theo Kupers
Argumentation of choice of the studio	The interest in dwelling has started since my internship at the University of Applied Sciences and at my work at an architectural firm. I saw the complexity of designing space for certain customers (target groups) with the requirements and all their special wishes. During the Master 1 period I followed the Dutch Housing track, the Mariahoeve. In this track the urgency of the city's densification was introduced to me. In the Master 2 I did the Heritage track, IBA Parkstad. In my project there was again a part of new dwelling involved. The interest in making a good dwelling project was a clear reason to choose for Dwelling as my graduation project. By doing this I can develop my skills in the area of dwelling. Right now there is a general housing shortage in Amsterdam. It is expected that there will be a lot of new residential projects in and around Amsterdam. In the future a lot of my work will be dwelling orientated. Therefore, this studio is very valuable. Furthermore, the location of this studio appeals to me very much. I was born in Amstelveen, close to Amsterdam. After studying I want live and work in Amsterdam.

Graduation project	
Title of the graduation project	Compact starter dwellings & watermanagement, for Amsterdammers and the city.
Goal	
Location:	Amsterdam, Groenmarkt.
The posed problem,	Amsterdam has a shortage of affordable houses for starters. During the crisis Amsterdam has hardly built new dwelling projects. At the same time Amsterdam has become increasingly popular in recent years. Therefore, the demand for housing is enormous. Due to the overheated housing market, it has become almost impossible for starters to find an affordable property in Amsterdam. Also private rent has risen enormously. In addition, there is no progress in social housing. The position of the starters is getting worse and that does not benefit diversity for a 'socially healthy' city. Densification of the city and more efficient living are the solution for a future liveable city.

	Winny Maas of MVRDV has shown in his research that 75% of the m3 in a house are often not used. Therefore, one must think about the efficiency of a dwelling. With the high square meters price in Amsterdam, minimal-size dwellings could be the solution to create affordable houses for starters. In addition, the municipality of Amsterdam will also have to take into account the changing climate and in particular water management. In the future the precipitation will have more peaks. The city can not process these amounts of water with the existing sewer system only. To prevent damage of flooding, the city has to work more like a sponge in order to gradually transport the water to the sewer system and also to use the rainwater directly. Buildings will have an important role in this.
research questions and	Main question 1: What aspects do help to create a minimum-size dwelling complex for starters? Sub questions: 1. Which aspects that help to create a minimum-size dwelling complex for starters are architectural? 2. Which strategies can be deployed to generate low-cost housing? Main question 2: What water management measures can be integrated in the design of a dwelling complex to assure a future rainproof Amsterdam? Sub questions: 1. Which specific measures can be integrated in the design of a dwelling complex of the Groenmarkt? 2. Which measures contribute to the social improvement of the neighbourhood?
design assignment in which these result.	I have drawn up a fictitious assignment in which water management and compact apartments are combined: Amsterdam wants to expand the planning of Waternet / Rainproof Amsterdam. The innovations by Waternet and Rainproof must be implemented in a real plan as an example for future projects and for the inhabitants of Amsterdam. The municipality will assign a building plot where this project has to be realized, with Waternet having an advisory role. The municipality demands that the realized dwellings are especially made for starters, a group that is struggling with the current housing market. The starter dwelling must be a small, efficient home that is really affordable for the starter. The main subject of this research is compact housing. Therefore the compact apartment program is leading in the design. The water management works as an extra layer that is integrated in the design. It is expected that this layer will also include architectural influences.

Process

Method description

For the graduation project three research reports will be made. The first report focuses on the compact apartments. In this report four case studies are analysed in addition to the literature research. It should eventually lead to an answer to what the elements are of compact housing. The site / location is analysed in the second report.

The third report focuses on watermanagement. In addition to the literature research, 3 case studies are also examined.

To answer the main questions only the first report (Compact apartments) and third report (Water management) are used. The second report is combined with the preliminary design for P2.

Case studies (compact apartments):
- XS Deluxe Houthavens (Amsterdam)
- North Orleans (Amsterdam)
- De Lofts (Amsterdam)
- Carmel Place (New York)

Case studies (watermanagement)
- City Plot (Amsterdam)
- BSH20A (Amsterdam)
- Rubroek (Rotterdam)

Literature and general practical preference

The following literature I intend to consult:

- Architectuurcentrum Amsterdam. (n.d.). Ontwerplab min of meer: microwoningen. Retrieved november, 2017 from https://www.arcam.nl/microwoningen-10-richtlijnen-voor-ontwerpers-en-ontwikkelaars/

- Hoorn, M., Kotte, R. (2016). Smart small living. Klein maar fijn. Retrieved november, 2017 from http://archistad.nl/wp-content/uploads/2016/11/Smart_Small_Living.pdf

- Synchroon & Shift. (2015). XS Deluxe. Retrieved december, 2017 from https://issuu.com/synchroon/docs/xs_deluxe-low_res-mrt2015

- Majoor S. (2013). Rooilijn: Themanummer de Nieuwe Stedeling. 46(6). Amsterdam, The Netherlands: Faculteit der Maatschappij en Gedragswetenschappen, Afdeling Geografie, Planologie en Internationale Ontwikkelingsstudies van de Universiteit van Amsterdam.

- Gemeente Amsterdam. (2016). Gemeentelijke rioleringsplan Amsterdam 2016 – 2021. Retrieved november, 2017 from https://www.waternet.nl/siteassets/ons-water/gemeentelijk-rioleringsplan-amsterdam-2016-2021.pdf

- Pötz, H., Bleuzé, P. (2012). Groenblauwe netwerken: Handleiding voor veerkrachtige steden. Delft: coop for life.

- Gebouwd Water. (2017). Eindrapport Gebouwd Water: Water als motor voor stedelijke vernieuwing.

- All documentation from: https://www.rainproof.nl/

Reflection

Relevance

Starters have difficulty finding an affordable house in Amsterdam. It is expected that this trend will continue and will even grow worse. House prices are still rising.

In this way, buying a house in Amsterdam will not be possible to a large group of people. Only people with a high income can afford these houses. The 'normal' starters are often not eligible for social rent and the private rent is expensive and not possible for single-person households. The position of the starters is becoming worse and that does not benefit diversity for a 'socially healthy' city. Less square meters can keep the house affordable and ensure that this target group can also buy a dwelling in the city.

The growth of the Amsterdam population will continue in the coming years. The city gets more densified and we have to share the same space among a larger group of people. However, the new generation of city dwellers attaches less value to private property and does not mind to live smaller. This inhabitant attaches more importance to the location. Smaller, cheaper dwellings are becoming increasingly popular. Therefore, it is important that, despite the smaller number of square meters, the quality of living remains the same as a normal house and perhaps even better.

In the future the precipitation will have more peaks. The city can not process these amounts of water with the existing sewer system only. Also with the further densification of the city, it must be taken into account that the city remains rainproof. Therefore, the municipality has stated specific goals for the watermanagement.

In 2020 the city must be able to handle 60 mm of rain shower per hour without damage to homes and vital infrastructure. 20 mm is processed via the sewer system and 40 mm is temporarily stored in public and private spaces. Buildings have an important role in this. Therefore, it should be investigated what the contribution of architecture to water management can involve.

Time planning

See Attachment.