# Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



## **Graduation Plan: All tracks**

Submit your Graduation Plan to the Board of Examiners (<u>Examencommissie-</u> <u>BK@tudelft.nl</u>), 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	Adrianna Waleszczak
Student number	5392780

Studio							
Name / Theme	Architectural engineering	studio/Second Life					
Main mentor	Anne Snijders	Architecture					
Second mentor	Mo Smit	Architecture					
Argumentation of choice of the studio	I choose the aE studio to the social and ecological project.	focus on the technology to solve aspects within the architectural					

Graduation project										
Title of the graduation	Maintaining the	continuity of social and natural flows								
project										
Goal										
Location:		Leeuwarden								
The posed problem,		Decreasing biodiversity, Linear water								
		sanitation system, Disconnection								
		between human and nature								
research questions and		How can a building act as a healthy								
		landscape layer and thus contribute to								
		the biodiversity of the city?								
design assignment in whic	h these result.	Dwelling ( previously, Office building)								

Urban environment is dominated by humans spatially, which breaks the flows of the cycles of supporting services of ecosystem. However, there is a potential of strengthening the ecosystem by making the flows circular and outlining spaces for greenery. The nutrient and water cycles are studied to defines key elements to maintain the ecosystem. My goals are to, through the architectural design;

- raise the awareness of the residents about the natural processes,
- make the strong community in the building
- decentralize the urban sanitation system and make the nutrient and water flow circular in the local settlement
- make the skin of the building (based on shearing layer diagram) part of the landscape

#### Process

#### Method description

The technical aspects of the design is already covered in the research paper "How can a building act as a healthy landscape layer and thus contribute to the biodiversity of the city?" through the Simulation & Modeling Research which results in a schematic diagram of water and nutrient flows.

For the design the tools used are

- addressing the problems with SWOT (Strengths, Weaknesses, Opportunities and Threats)
- site analysis
- analyzing the current condition of building in Leeuwarden
- design through sketching, diagrams and making models
- focusing on the goal of the building and users
- mapping the programme and architectural matrix
- technical aspect with implementation of research paper output
- capturing the atmosphere through visualizations and models

		P	2										F	3				P	4	4				P5
11	W02	W03	W04	W05	W06	W07	W08	W09	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	W25
	CW	CWT	Т	С	c	С	С	c	СТ	С	С	CW	CWT	Т	С	o	o	o	СТ	С	С	CW	CWT	т
k	2.8	2.9	2.10	Spring	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	4.10
		RESEA	esentat	Itation RESEARCH PAPER submission																				
			researd	th the w	vater sanitation in detail									draft reflection										
	ideal s	deal scenario choosing the proper biota for natural processes																						
			procee	ding wi	th feedl	back									proceeding with feed			back						
	nrece	ntation			workin	working on narrative									workin	working on				extra models, drawig		IS		
	prese					improving the urban plan									representation					etc.				
						working on plans, sections, elevations																		
					working on materials, details and technical aspects																			

Legend: In **blue** work related to the design, in **pink** work related to the research paper in **orange** crucial deadlines

#### Literature and general practical preference

The ideas was to design for people with care of nature. It was inspired by Permaculture principles to design as I attended gardening course and became more aware of natural processes. In the design process I am following The Design with Nature principles which means to be proactive, utilizing natural processes and providing opportunities for nature as part of the infrastructure development process.

Literature for Design: The Urban Design Process by Black, P., Eddin Sonbli, T. Sustainable Urban Planning Vibrant Neighbourhoods, Smart Cities and Resilience by Bott H., Crassl, G., Anders, S. BiodiverCITY\_A Matter of Vital Soil! by van den Berg J., van der Made, H., Oosterheerd, I., Riccetti A., Zoest J Building with Nature Creating, implementing and upscaling Nature-based Solutions by van Eekelen, E., Bouw, M Literature for Technical aspects (presented in the research paper) with focus on: CLOSING THE LOOP Ecological sanitation for food security by Esrey, S., Andersson, I., Hillers A., Sawyer R

The precedents for the design:

"Arbeiten & Wohnen" a model housing project in Freiburg im Breisgau (using decentralized water system)

"Östarkade" an office building of KfW Bankengruppe in Frankfurt am Main (using decentralized water system)

"Nine dwellings Oosterwold" in Almere, Bureau SLA (understanding the design for coliving dwellings)

"Schoonship" in Amsterdam – Space&Matter (study the process of design with the influence of residents from the beginning)

"Three Generation House" BETA – maintaining the community on a family level and how this is implemented in the building design

"Circular Buiksloterham" district Amsterdam dealing with water

"Tiny houses designs" (how they deal with waste output and the social and prive space perception)

"Allotment gardens" in Poland – how the communities are built around gardening activity

### Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

My architectural project is trying to answer the question of how to close the nutrient and water cycle on the building scale. The solution requires a different design of spatial arrangement, programme, services and skin layer of the building. I am focusing on the technical aspects of the architecture, which is also connected, to the socio-cultural aspect - nature and human connection - which is part of aE studio approach.

 What is the relevance of your graduation work in the larger social, professional and scientific framework.
The graduation work will contribute to the discussion on the sanitation system is

The graduation work will contribute to the discussion on the sanitation system in the building and challenge the idea of traditional perception of human involvment in water and nutrient distribution in architectural designs.