Graduation Plan

Master of Science in Architecture, Urbanism & Building Sciences

MSc Landscape Architecture 2024 - 2025

Nicola Andrea Vollmer

Graduation Plan

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

I Personal information	
Full name	**Nicola Andrea Vollmer**
Student number	6047556

II Studio / Lab information		
Name / Theme	FLOWSCAPES	
Main mentor	Dr.ir. Inge Bobbink	Architecture and the Built Environment, Landscape Architecture
Second mentor	Gert van der Merwe	PhD Candidate, Architecture Philosophy and Theory
Argumentation of choice of the LA graduation lab	I chose the Circular Water Stories (CWS) lab due to my fascination with urban water strategies in Cape Town and a "hidden" and widely unknown traditional water irrigation system established in the Northern Cape of South Africa. The CWS lab would allow me the best opportunity to explore these interests.	

III Graduation project	
Title of the project	**Untold waters**
Context and aim of the project	

Location (region / area / site)	The project is situated in the Western Cape, South Africa. The location of the design site is alongside the Sir Lowry's Pass River in the Helderberg region in the City of Cape Town. The source of the river springs from the Hottentots-Holland Mountains and flows into False Bay, passing through urban and agricultural landscapes. The design area focuses mainly on Sir Lowry's Pass Village and the surrounding informal settlements due to their vulnerability to urban floods.
Problem statement	Flood mitigation: When the extreme rainfall poured down on the City of Cape Town in 2023, homes were being submerged in mud and flushed away as the river crashed from the mountains and into the urban landscape. It was clear that no current infrastructure would prevent this from happening again. Permanence, value, and safety: Unexpected and unprepared-for floods, such as these, frequently devastate vulnerable communities, such as the informal settlements in Sir Lowry's Pass. The vulnerability of these informal settlements often arises from their locations, insufficient infrastructure, unregulated construction practices, and socio-political context, which has the consequence that these communities and lived-on landscapes are often overlooked and not cared for. From the river's perspective: The waterways in Cape Town have shaped the growth of its inhabitants and their city, not only in their infrastructural value but as carriers of stories and human relationships. So did Sir Lowry's Pass River shape the growth of its

	surroundings, but now it is hidden under extreme pollution, urban development, and a lack of care and awareness. It is dismissed under streets and forced into channels, without addressing its deeper illness.
Research question(s)	How can principles of traditional water management systems inform urban flood mitigation and rehabilitation strategies to foster the regrowth of a coextensive riverine landscape? Sub questions: How can the river act as a link between scattered urban nodes in a way that connects the residents? How can the landscape design encourage responsibility and care from the local community?
Design assignment	

The design assignments are structured around three sub-questions:

The current plans for the river, to prevent flooding in the formal, downstream residential area, rely on high-tech solutions to rectify, level, and dike the river. A response to developing urban flooding strategies such as these might discourage a human-river relationship and awareness based on intimacy, interconnectedness, and experience. Through this project, I aim to address the mitigation of possible flooding in the upstream informal areas through low-tech and human-scale strategies, informed by existing traditional water strategies of slowing down and preventing the force of the river that threatens the livelihood of residents living in informal areas. This leads to the first sub-question: **How can the principles of existing traditional water systems inform new flood mitigation methods in upstream urban environments?**

The Sir Lowry's Pass River is one of many rivers in the City of Cape Town that passes through contrasting and often disconnected urban areas, yet what they have in common is the connection of the river. The second sub-questions therefore ask: **How can the river act as a link between scattered urban nodes in a way that connects the residents? If the river can be experienced as a link between people and their surroundings, how can it evoke a sense of care towards the quality of the river?**

The third part of the assignment regards the lived experience of the river and the proposed interventions. If the proposed flood mitigation therefore functions based on

a low-tech and approachable system, it would require active interaction from the local community. An important question would therefore be: **How can the landscape design encourage responsibility and care from the local community?**

IV Graduation process

Method description

An in-depth exploration of traditional water strategies in South Africa. The aim is to extract principles from these systems and explore how they can inform the development of an alternative flood mitigation landscape within an urban context.

Throughout the report, the research, analysis, theoretical grounding, and case studies will be researched parallel to the design development. The purpose of doing the research and design development parallel is to extract principles, make conclusions, and test them directly on the design location.

Another method I want to explore is to analyse and develop the project through the view of the river as a living organism.

The methodology is therefore structured as follows:

- Explore the fascination of being immersed and aware of the landscape through case studies.

- Literature study, precedent study, site analysis, and conceptual exploration.

- The lessons learned, observations made and principles extracted are simplified and developed as sketches, glossaries, and diagrams that will assist the development of the design strategy and outcomes.

- From the start of the thesis, whilst keeping the intention in mind, design exploration takes place through means of conceptual sketches, moments of discovery and dismissal, and diagrams towards a thoroughly worked out spatial design which is visualised through plans, sections, models, and systematic diagrams.

Literature and more applied references

- Site visits to the Circular Water Stories site, as well as the design site. These site visits include interactions with the locals to gain knowledge.
- Local traditional water strategies as precedent studies, as well as low-tech water management strategies in other contexts.
- Reports and studies on the value of indigenous knowledge within urban water strategies in South Africa.
- Urban waterway strategies in South Africa as precedent studies.
- Literature study on infrastructure of care, the significance of aesthetics towards designing a sustainable landscape, argued for by Elizabeth K. Meyer, and the theory of affect commented on by De Block and Vicenzotti.
- Reports on hydrological heritage, rivers, and wetlands in Cape Town.

V Reflection on the project proposal

1. What is the relation between your graduation topic, the lab topic, and your master track?

My interest in this project proposal grew from my fascination with how people adapt to their landscapes and find ways to coexist and grow with the surrounding natural systems. This quality of humans is something I began to understand more deeply during the first year of the landscape architecture track. I recognized the unique relationship between humans and their landscapes, as well as the role of landscape architecture within this dynamic.

This understanding of what landscape architecture means to me shaped the way I approached my graduation topic. I identified these qualities in both the traditional water system and the design location, which has significantly influenced my perspective on the project. By immersing myself in the study of traditional water systems, I was able to frame my position toward the project.

2. What is the relevance of your graduation work in the larger social, professional and scientific context?

This project addresses urban challenges, such as flooding in informal areas, which are often overlooked due to their political and social context. I believe there is significant potential to enhance the quality of these landscapes in the long term by embracing the unique and rich layering and growth of the landscape, rather than relying on short-term or "formal" solutions. By exploring alternative methods that respond to the local context and allow flexibility to accommodate changing natural and social landscapes, I believe that this work can be explored as an example of how we can rethink how water is managed in certain areas of the City of Cape Town.

Landscape architecture is a profession that is growing strongly in South Africa, as it is often employed as a tool to improve the small, daily aspects of people's lives. This ability of landscape architects is what I hope to explore and embrace within this project — the idea that even small, landscape-based interventions can significantly

enhance the quality of life. For instance, creating sustainable infrastructure to enable children to cross polluted rivers safely is a modest yet impactful intervention. These small successes are incredibly valuable in certain areas of South Africa, and I hope that by exploring such qualities in this project, they could serve as templates for similar areas.