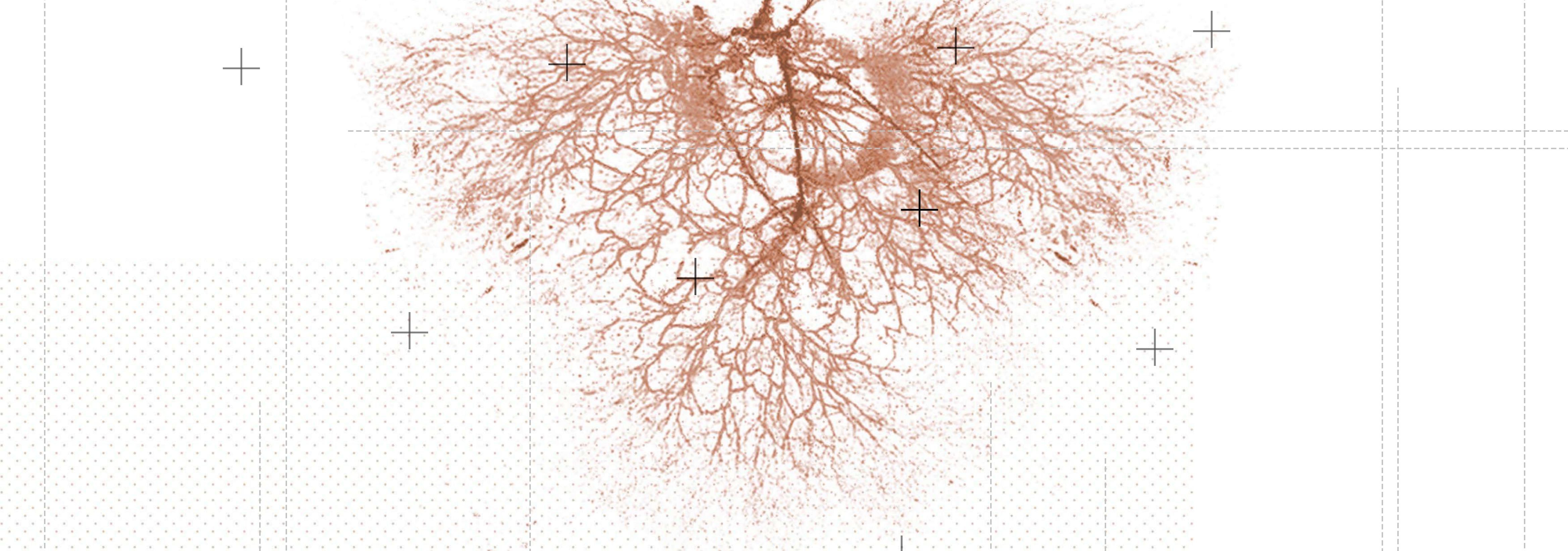


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       UNIVERSITY OF TECHNOLOGY URBAN PROTOTYPES
          ALONSO MARTINEZ
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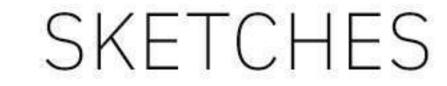
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PROTOTYPE EXPANSION ------



### RIVER VALLEY SÄVEÅN - GAMLESTADEN 1 ALONSO MARTINEZ

### SITE ANALYSIS SAVEAN



Gamlestaden means "The Old City" and was founded in 1473, centuries before the current city center evolved. Originally, the area started as a focal point for industries and production that nowadays merges with a vast array of commerce, leisure, restaurant, and housing options. The area is predominantly characterized by wooden housing and old brick factory buildings; in recent years, new industries and companies followed by residential complexes have been located in the area, repositioning Gamlestaden as a zone of high interconnectivity and with multiple social and economic purposes.

The Säveån river basin crosses along the area, fostering abundant biodiversity and mixed land uses. However, the industry-oriented inclination of the area gave place to the constant accumulation of pollutants in air, water, and soil, becoming an important issue to consider when talking about environmental aspects or urban development due to its impact on health and common welfare.

Departing from this scenario, the project proposed is an urban prototype that attends the cleansing of soil by bioremediation strategies and also functions as a public space that can strengthen social bonds and common interactions, the intervention proposes spaces for education, learning, leisure, exploration, production of mycelium/mushrooms and preservation of local biodiversity.

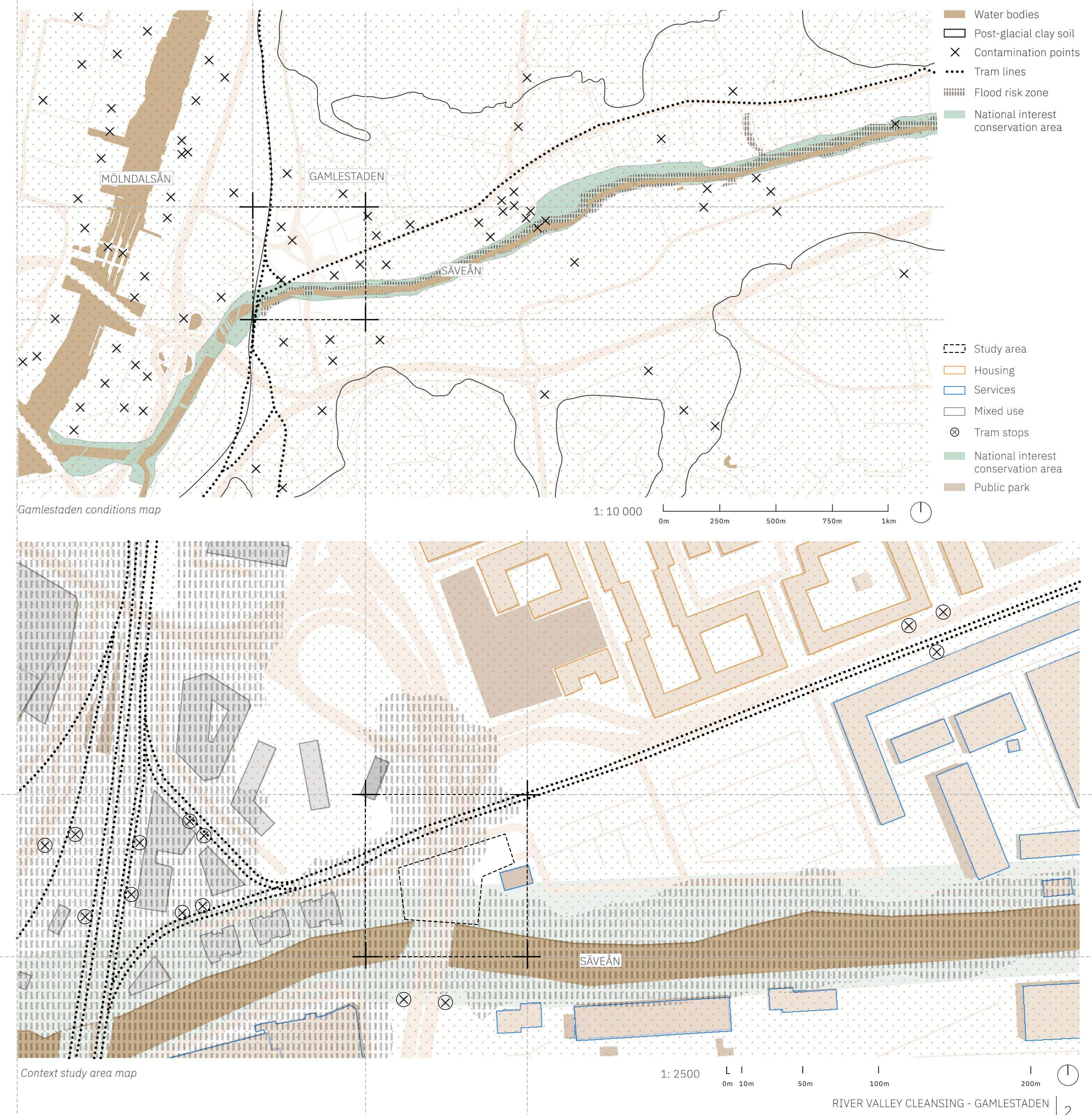






### Gothenburg map

Study area images



ALONSO MARTINEZ

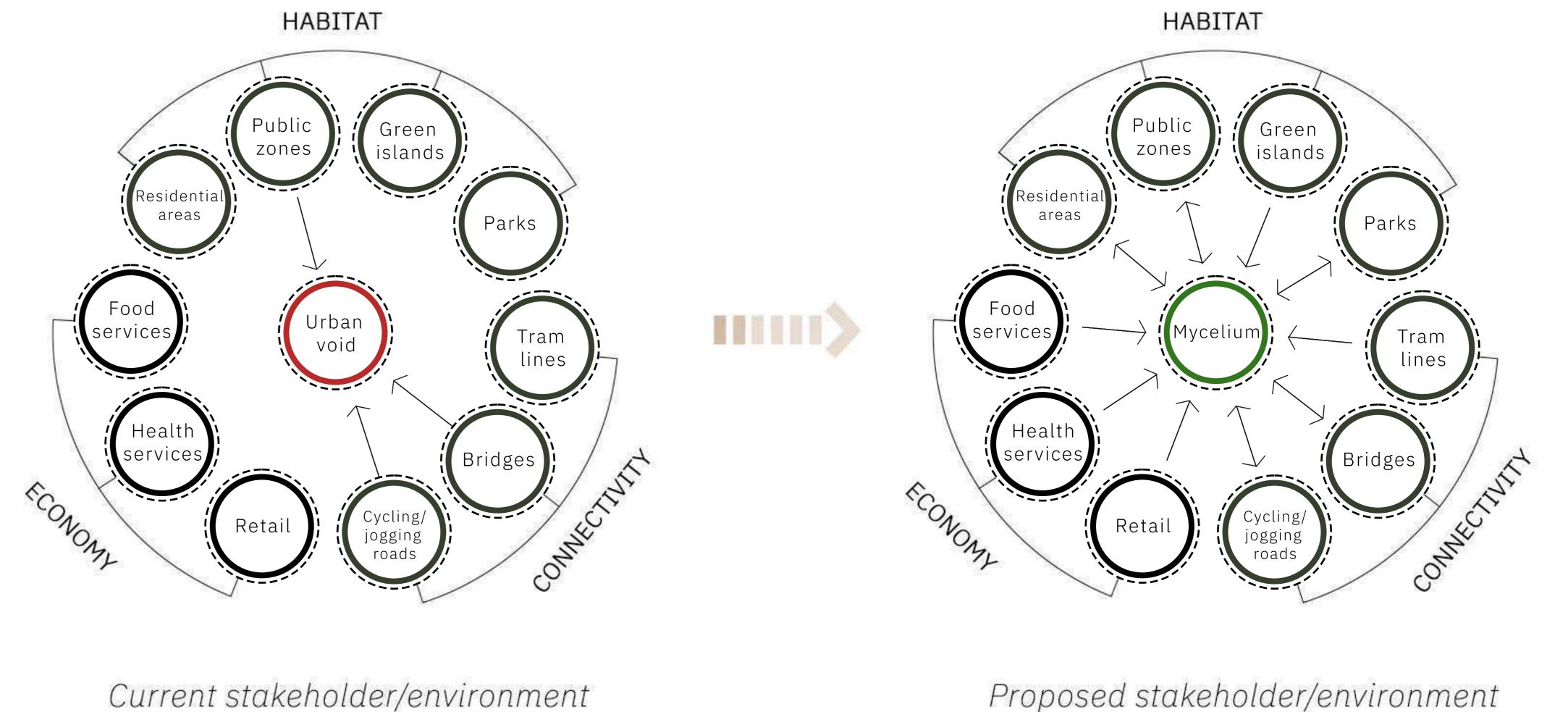
# SITE VISIT ANALYSIS

The study area is located next to Gamlestads Torg, an interconnectivity point between Utby, Hjällbo, and Gothenburg's city center, surrounded by residential buildings, retail stores, healthcare services, parks, public common spaces, and green areas. Located underneath a bridge for motorized transportation connecting to Bagaregarden, the area is identified as an urban void, having no clear function working as an empty plot of land, with scarce vegetation, polluted soil, and an uninviting atmosphere.

Having this variety of functions and places around, the area offers a promising potential to be transformed into a catalyzer that fosters a project which can positively contribute to the improvement of the area in terms of environmental health, social fabric, diversification of land use and boost of economic traits.

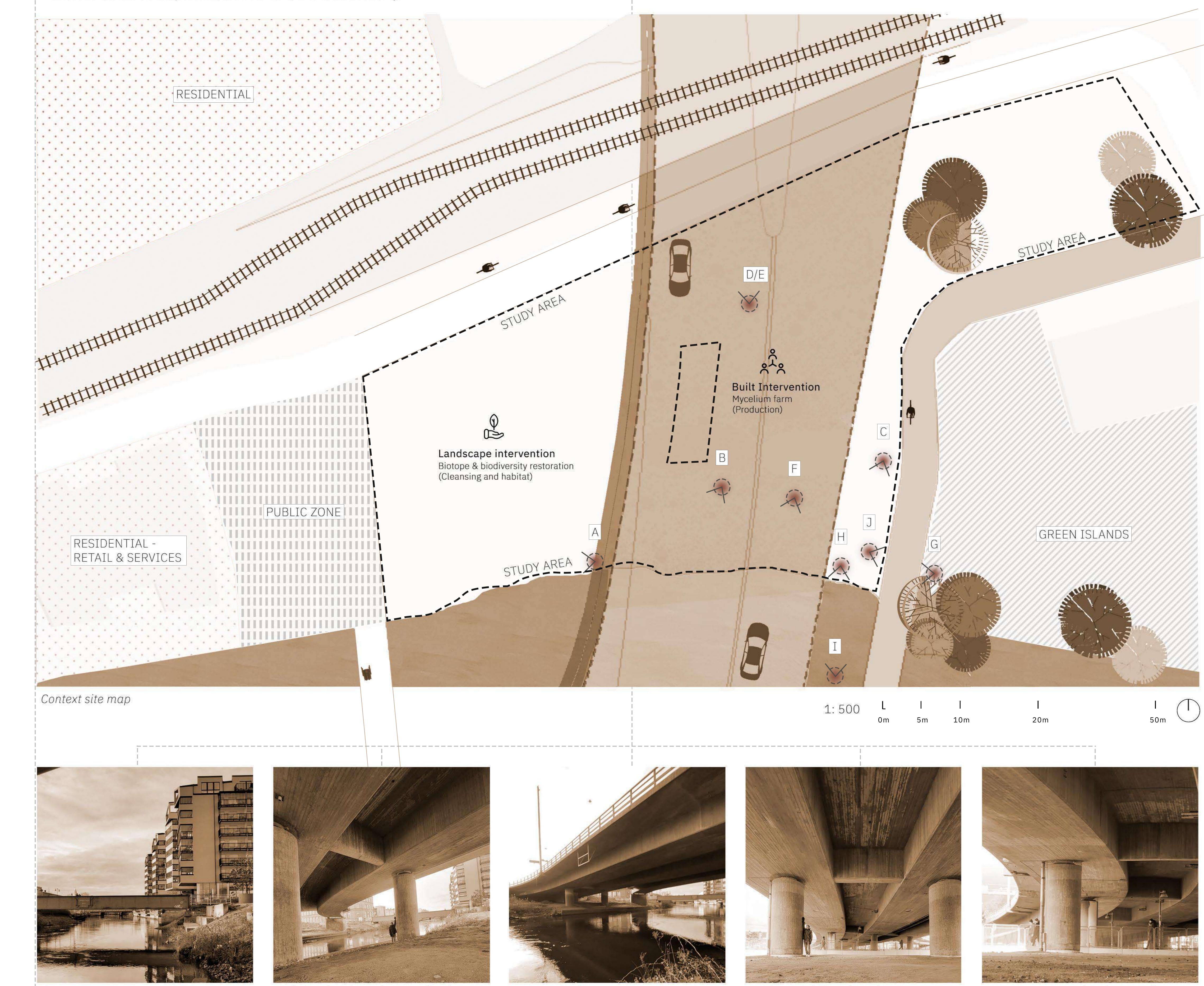
As mentioned before, water and principally soil pollution is a major issue along with the disconnection of spaces in the area, for this reason, the prototype aims to create a space that functions as a natural cleanser of soil in situ that at the same time offers public spaces for the residents and visitors in the area. The intervention consist of a landscape intervention through cleansing pots with publics spaces and a built intervention attached to the bridge for mycelium production.

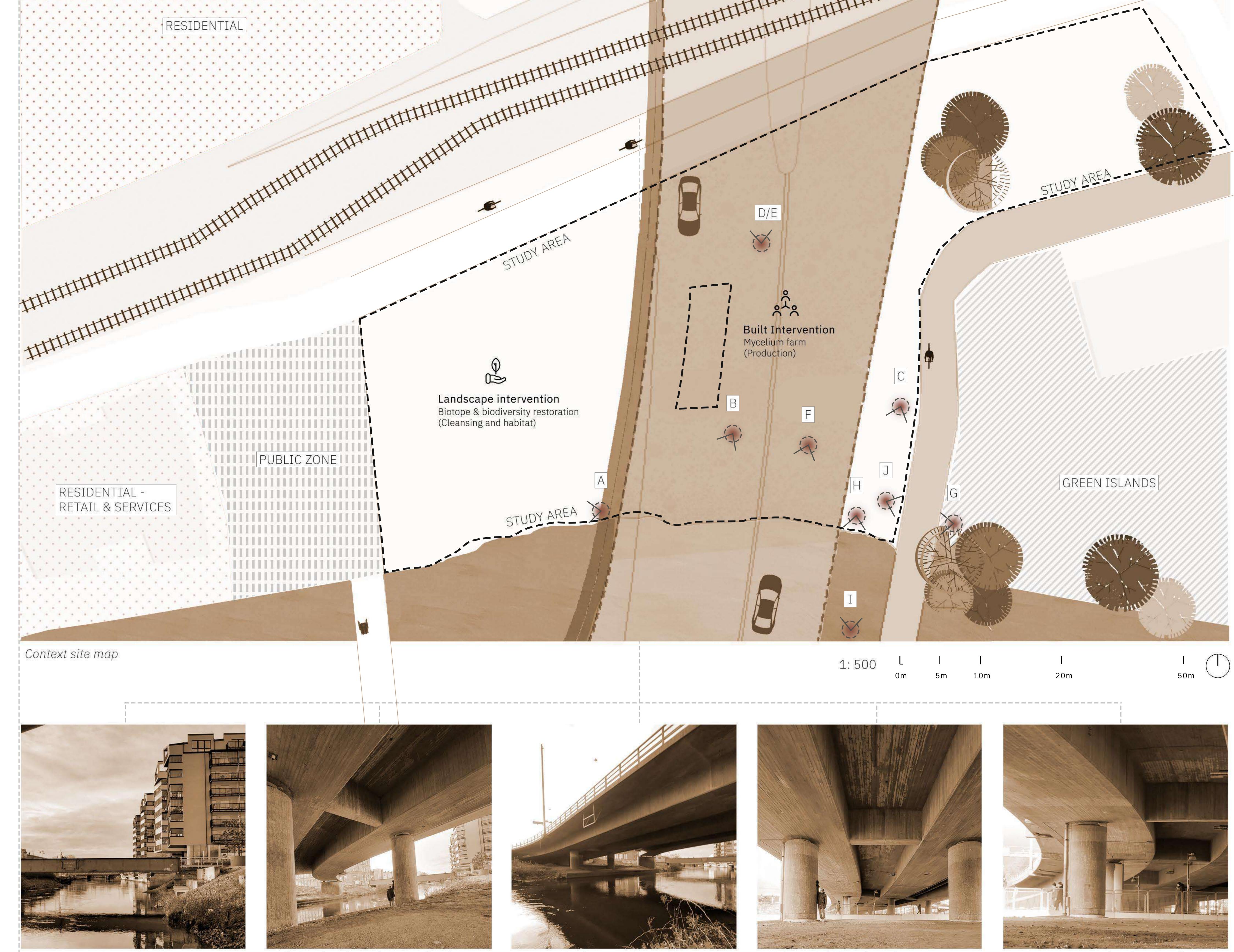
Mycoremediation is the the selected method to pursue this goal, to decompose the pollutants into biodegradable components through chemical processes in mycelium, while also creating an opportunity to create a social community around it. This will fill the void and instead create a connection among all the different habitat developments, environment, and local economy.



interconnectivity diagram

Proposed stakeholder/environment interconnectivity diagram







Direct connection to housing areas View A



Sufficient height to dampen floods View B

Opportunity for parasite architecture View C

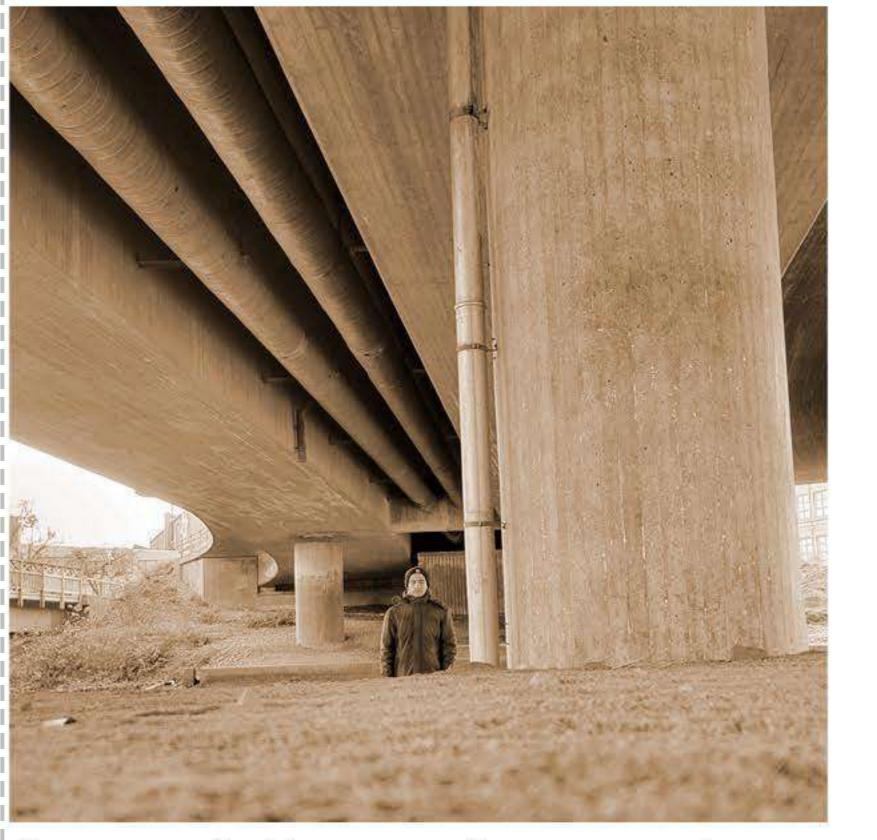
Height variability along the area View D

Important nexus of pedestrian flows View E



Bicycle and padestrian infrastructure View J



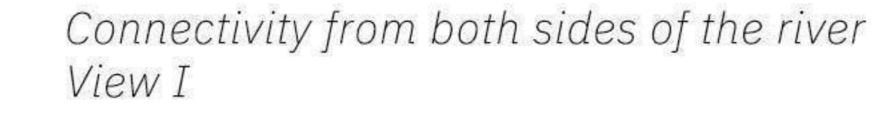


Great available space for prototyping View F



Abandoned areas as opportunity View G

Pollution in water is also present View H







### REFERENCES & VISION



**ELINOR-OSTROM PARK** Landscaping Austria / Vienna

**GROWMORE** Production prototype Copenhagen / Denmark



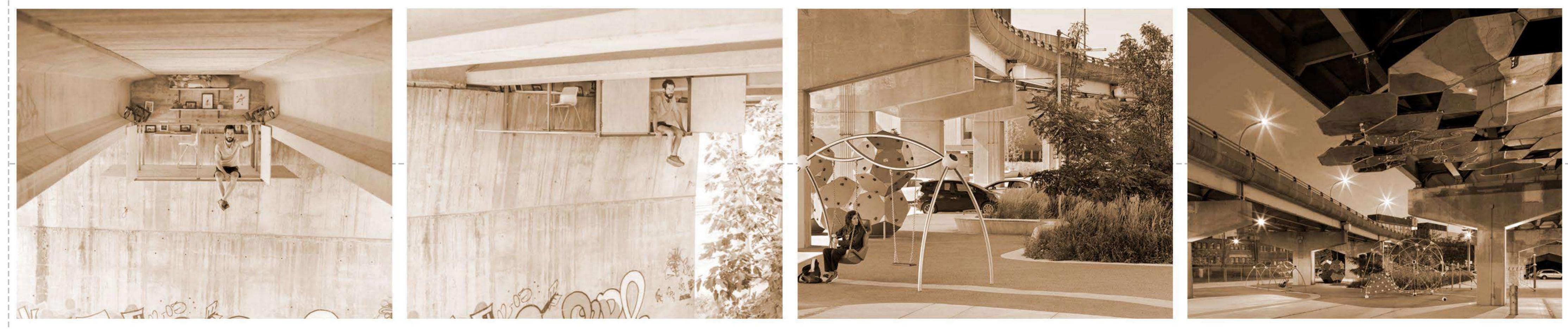


Copenhagen / Denmark





**PLATFORM PARK** Landscaping USA / California



HANGING STUDIO Parasite architecture Valencia / Spain

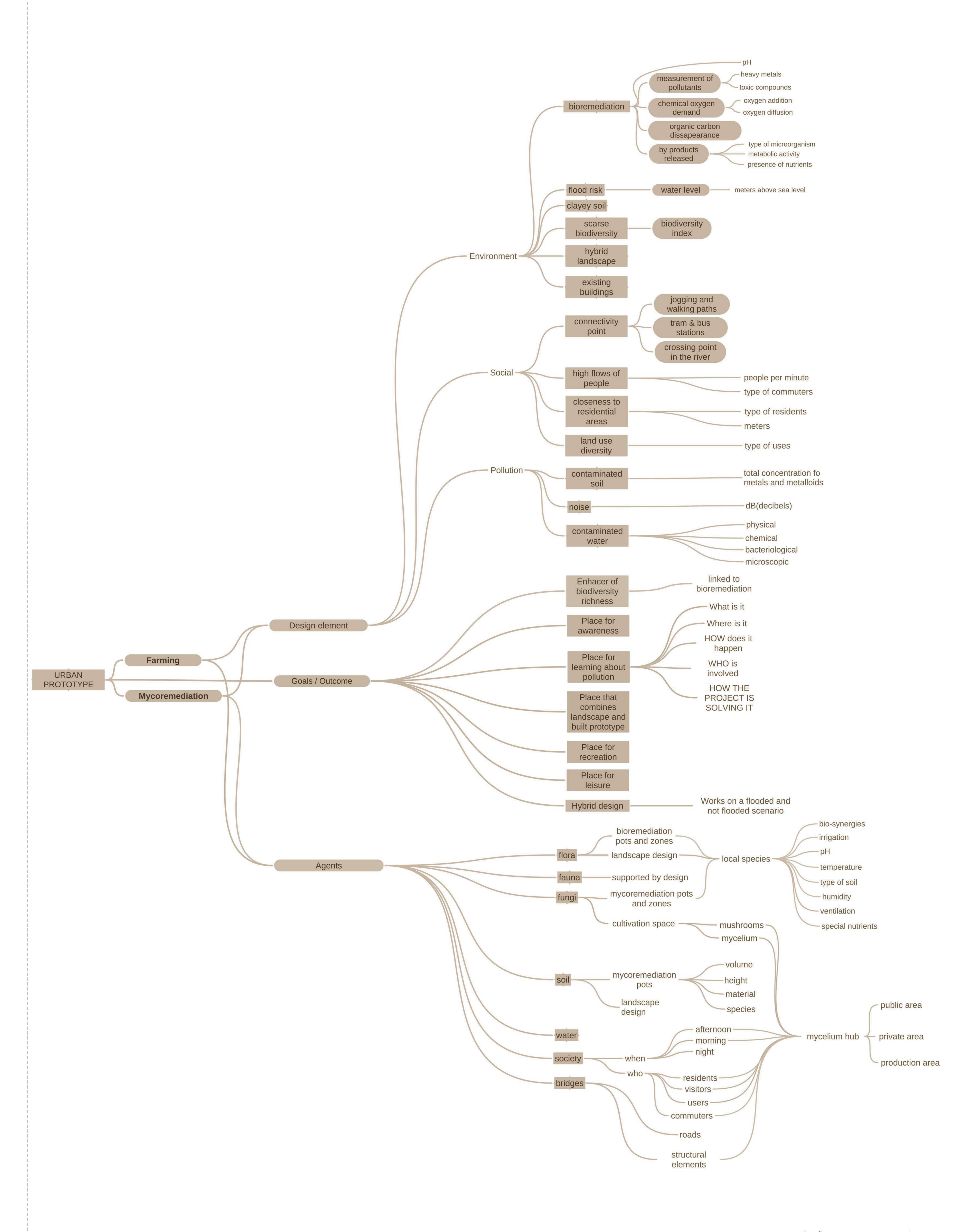
**UNDERPASS PARK** Landscaping Toronto / Canada



Future visualization

RIVER VALLEY SÄVEÅN - GAMLESTADEN 4 ALONSO MARTINEZ

# COOGLE DIAGRAM

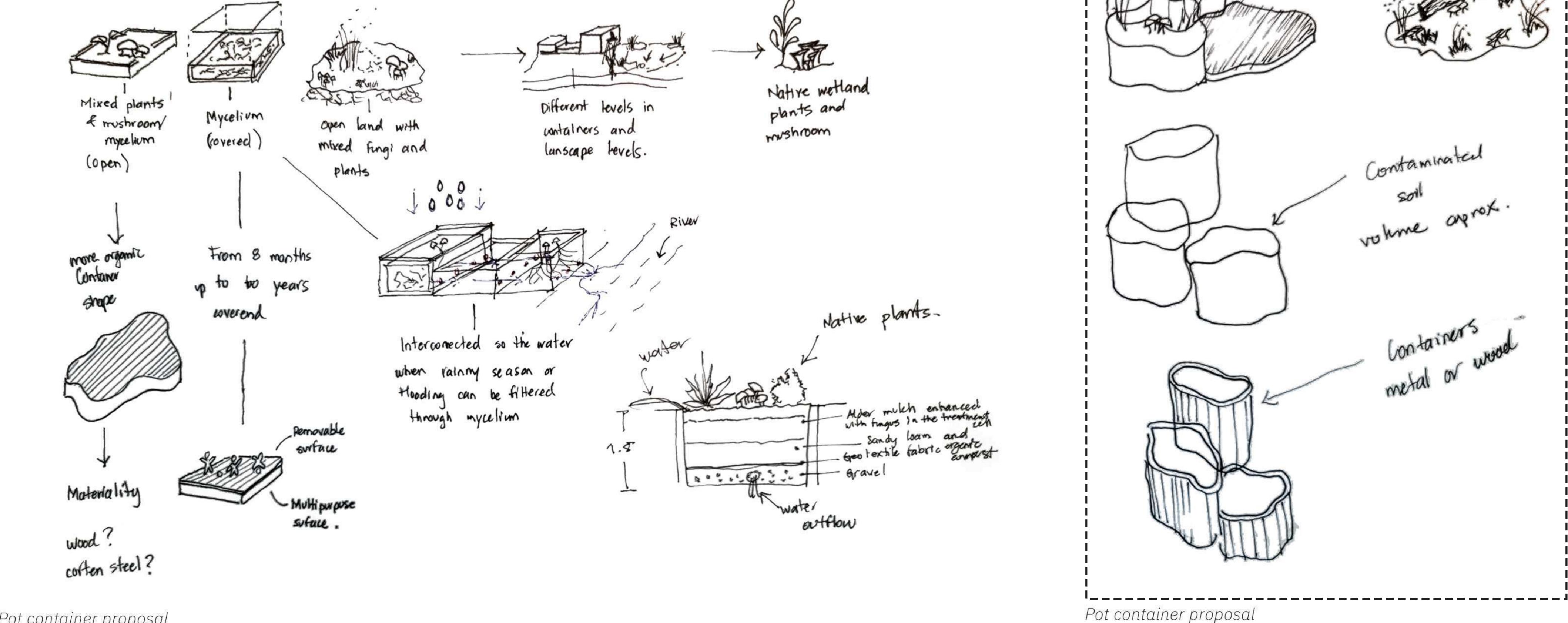


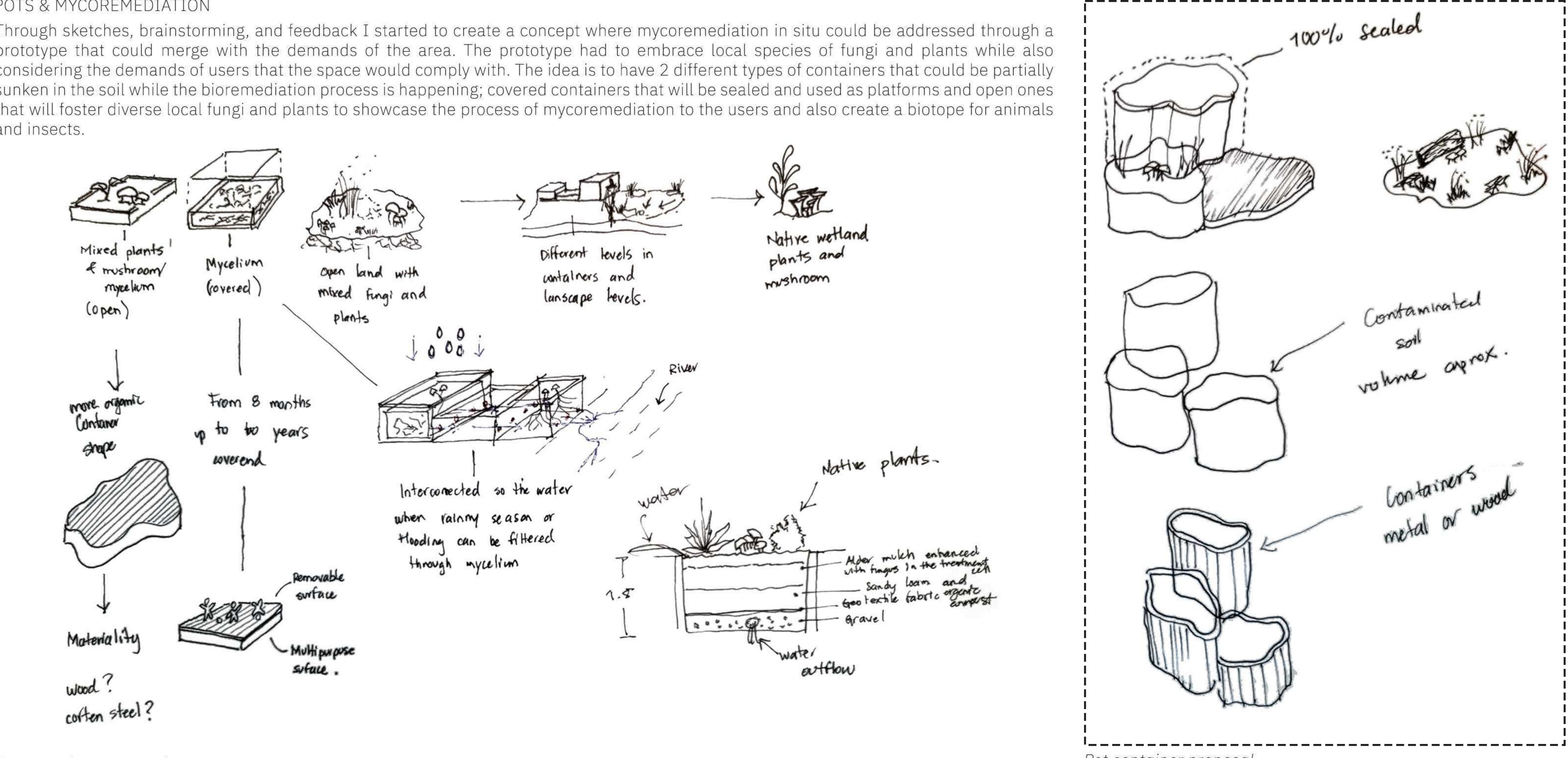
RIVER VALLEY SÄVEÅN - GAMLESTADEN 5 ALONSO MARTINEZ

## SKETCHES

#### POTS & MYCOREMEDIATION

Through sketches, brainstorming, and feedback I started to create a concept where mycoremediation in situ could be addressed through a prototype that could merge with the demands of the area. The prototype had to embrace local species of fungi and plants while also considering the demands of users that the space would comply with. The idea is to have 2 different types of containers that could be partially sunken in the soil while the bioremediation process is happening; covered containers that will be sealed and used as platforms and open ones that will foster diverse local fungi and plants to showcase the process of mycoremediation to the users and also create a biotope for animals and insects.



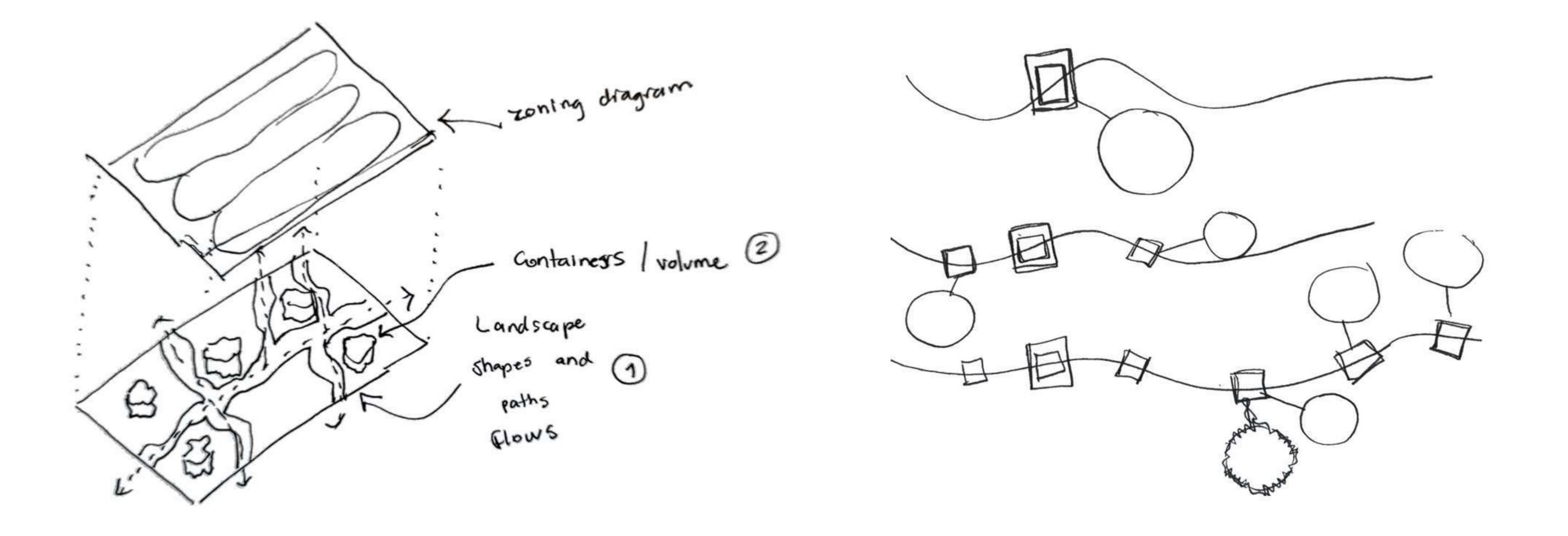


Pot container proposal

#### ZONING AND PROTOTYPE EXPANSION

The next approximation I worked with was the zonification of the intervention area and how to distribute the pots according to the flows of people I observed in the area. I divided the area into 3 zones that will crossed by pedestrian paths, the areas that do not function as paths will have the pots at different heights, working as planters, activity platforms, and interactive walls, all of them working as cleansing containers.

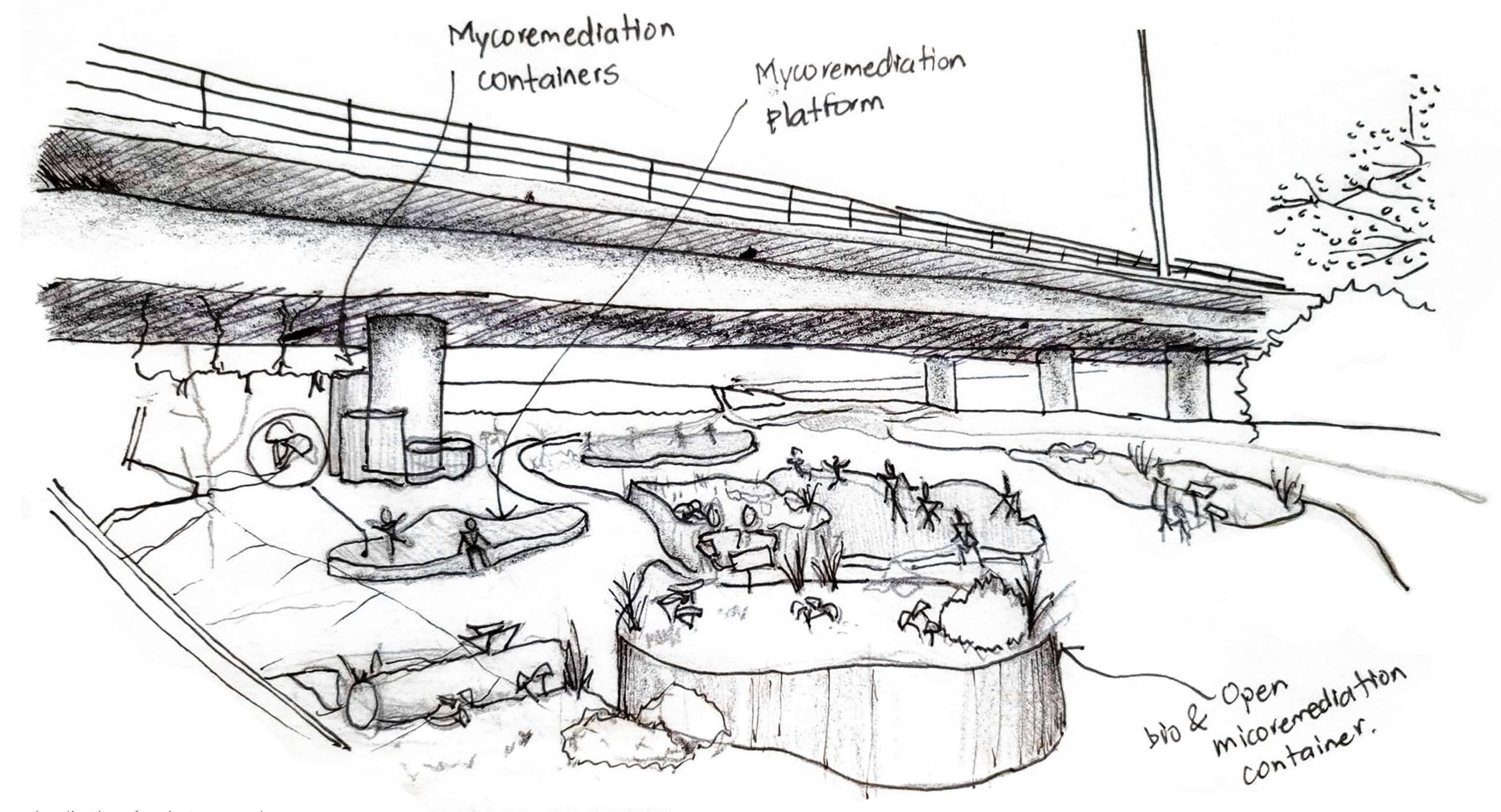
After landing the concept of how I wanted the pots to work and their intervention in the environment, I commenced to work with the idea of replicating the project along the river basin, taking into consideration all the context variables depending on where I would place the prototypes.



At this point, I was not aware of the requirements of each area. Still, I knew I wanted them to be adapted to the needs of where they were going to be placed and following the pollution of the soil and the number of people that would pass by and use the new intervention projects.

Landscape design, zones, flows and distribution of pots

Future replication of the project along the river basin

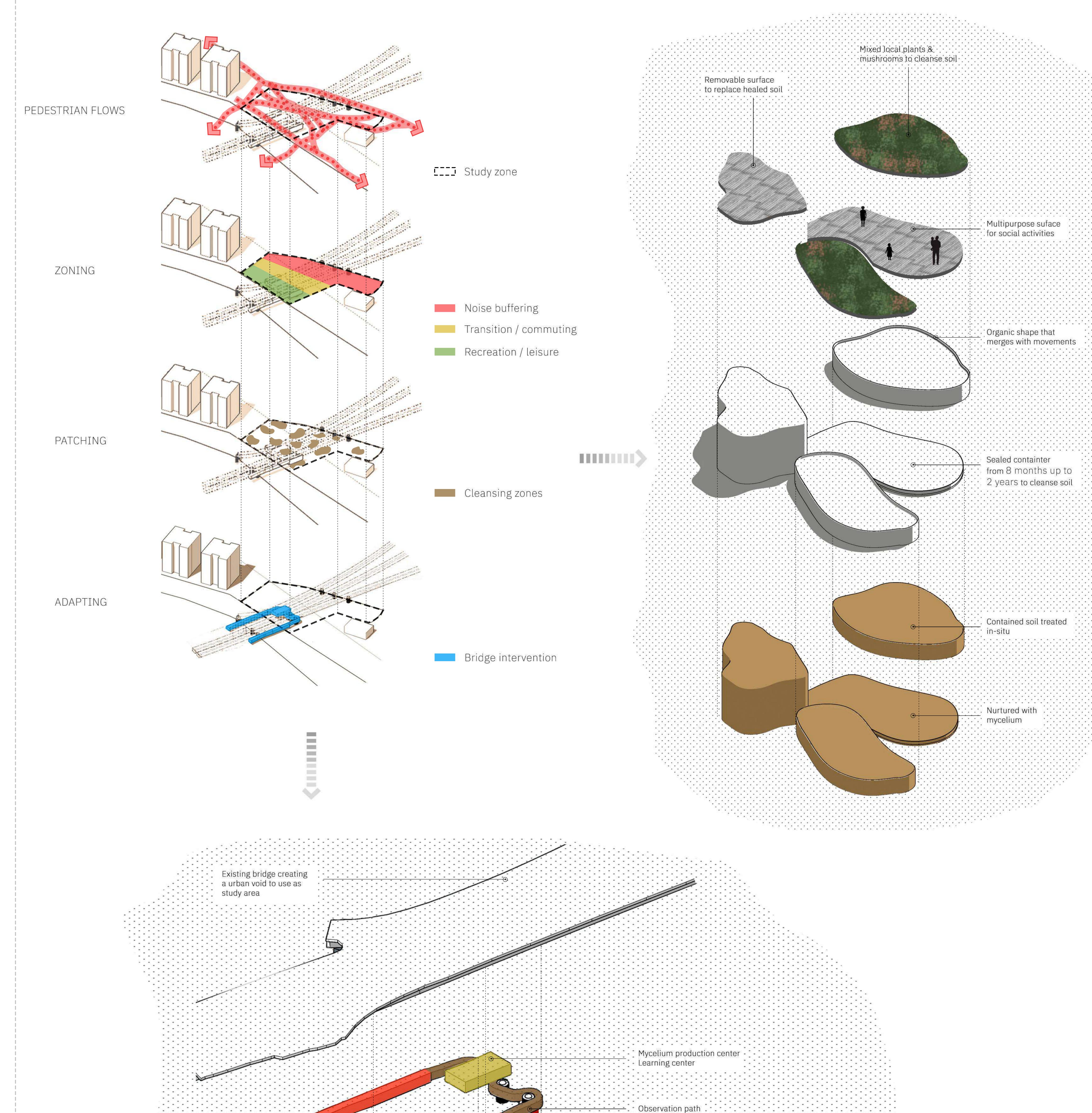


Future visualization of project proposal

RIVER VALLEY SÄVEÅN - GAMLESTADEN ALONSO MARTINEZ

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## AXONOMETRIC DIAGRAMS & EVOLUTIONARY TREE



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RIVER VALLEY SÄVEÅN - GAMLESTADEN

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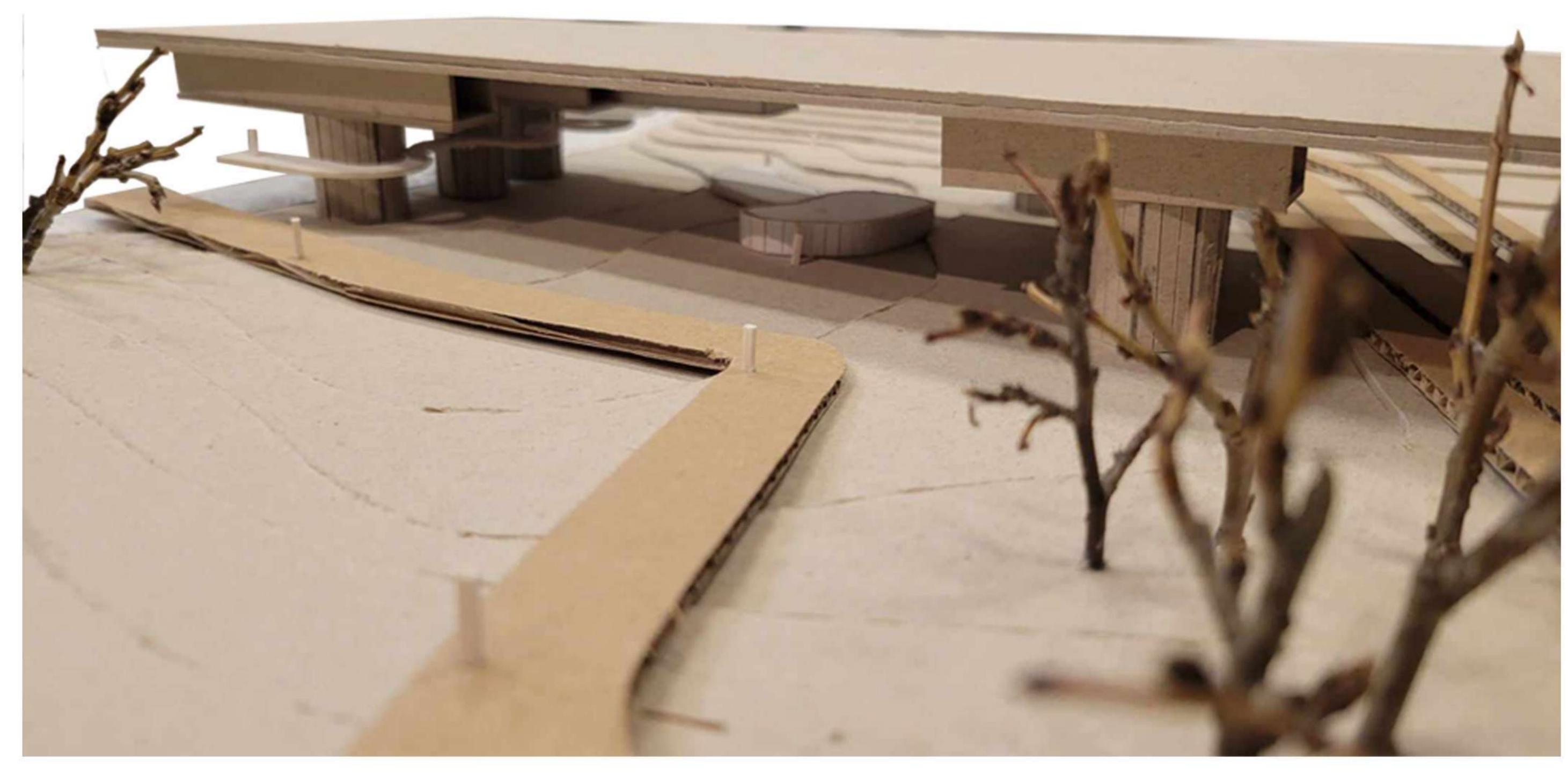
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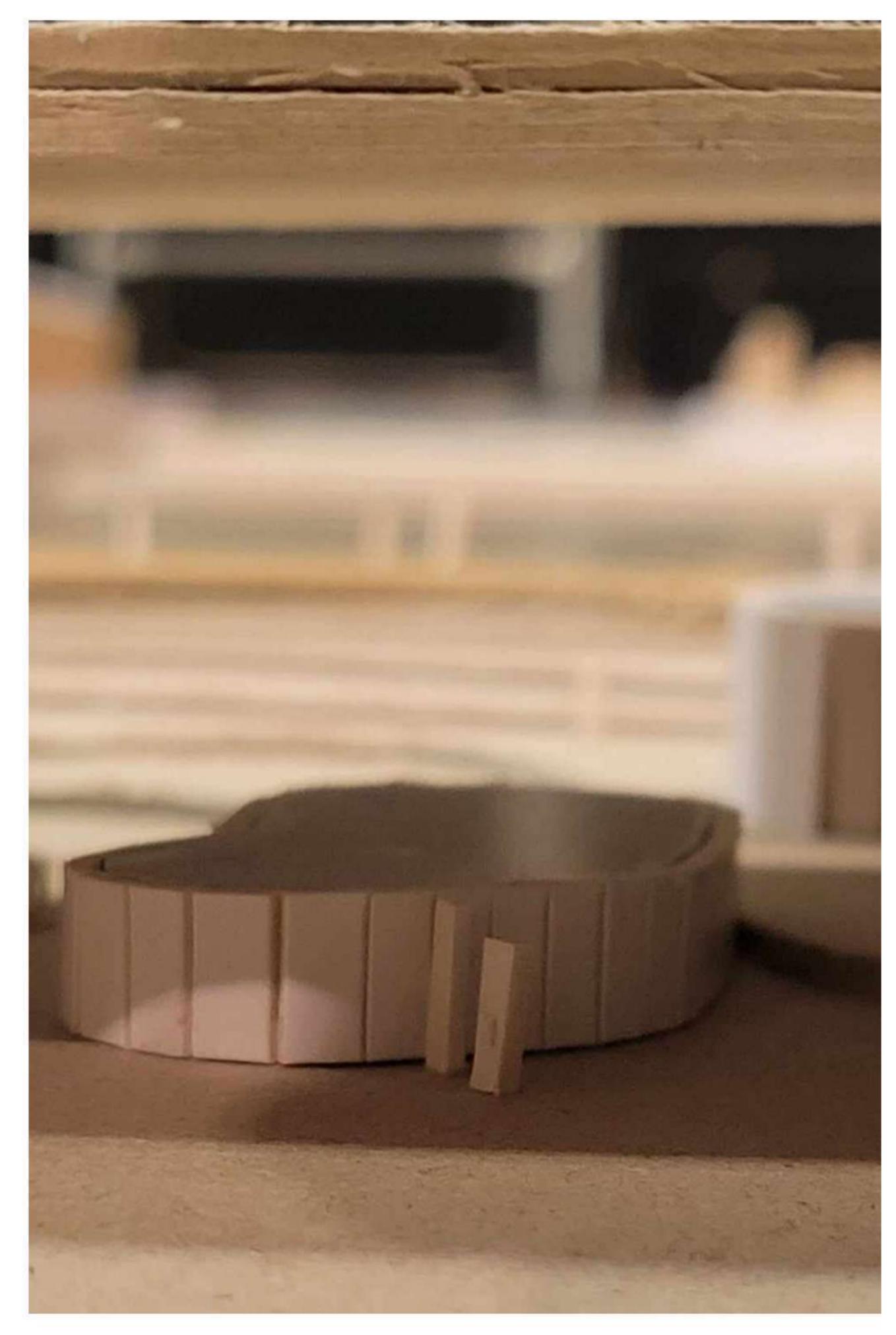
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#### SITE MODEL (1:200) & POD PROTOTYPE MODEL (1:50)

The purpose of the models was to understand the context of the site and how the prototype would adapt to the existing conditions. One of the findings while making the model was how the topography has a very important role when locating the prototypes of pods. Due to the inclination of the terrain, it is important to consider where and how the inclinations are going to be managed to work together with the design of the pods. in regards to the bridge, the height of the lower beams of the bridge and the height of the pods at certain points can be a challenge to note, particularly where the bridge meets the tram lines, a well-adapted design has to be planned to take the utmost advantage of the prototype, the bridge, the tram lines and the pedestrian paths.





#### Site model showcasing intervention area and cycling paths.

Human scale compared to pot height Scale - 1:200

Scale - 1:200

#### POD PROTOTYPE & MYCELIUM FARM

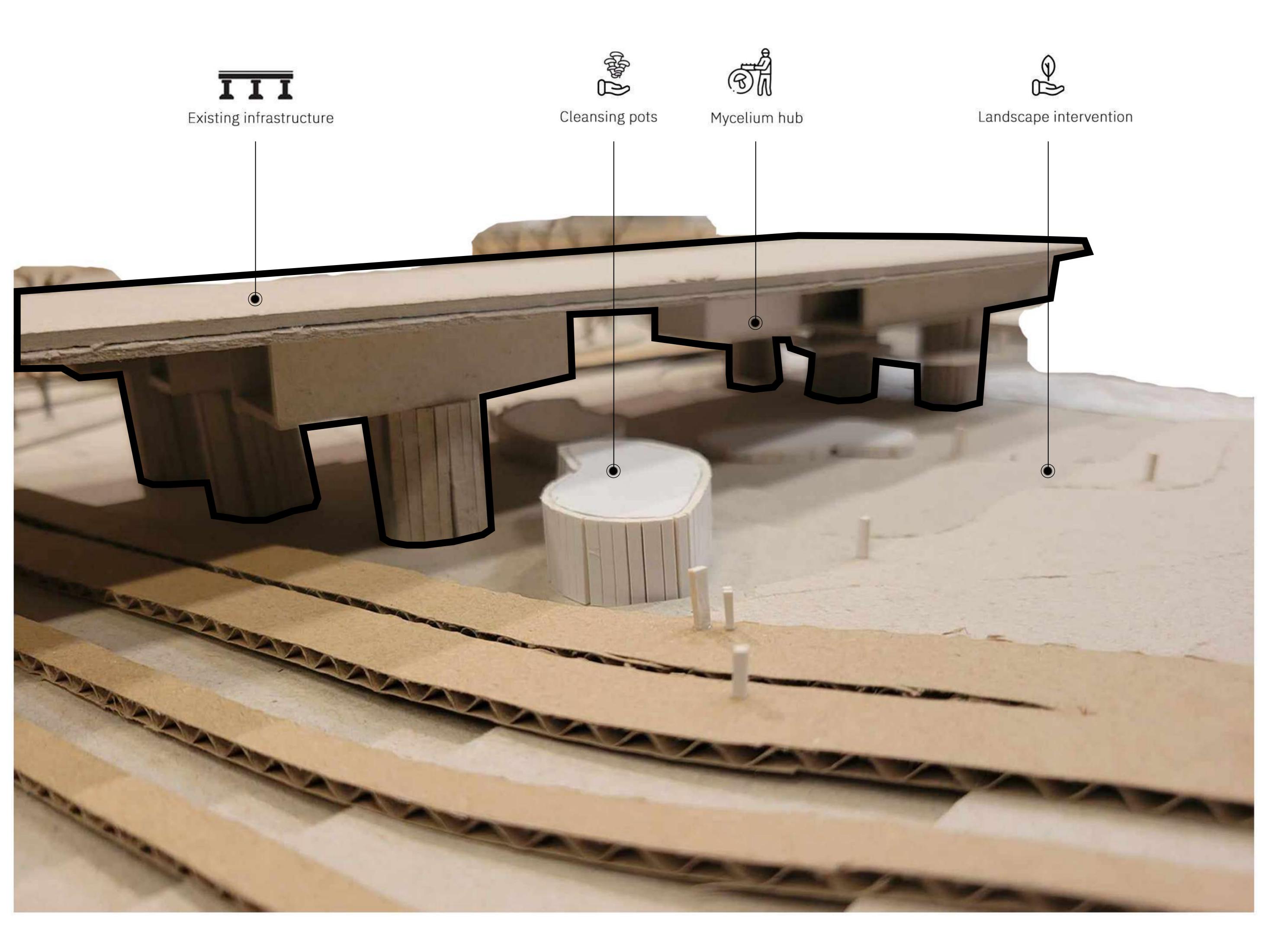
To understand how the pods interact with the area, I created 3 different versions of them following the heights I envisioned would exist in the area. The bigger pods can be seen as scultoric elements with their massive volume, therefore they can act as individual elements with certain uses, displaying art, used as interactive platforms for activities, or showcasing the processes of bioremediation, local biodiversity, and/or local activities happening in the area.

I also created a section for the bridge showing how the farm will adapt to the existing space between the concrete beams under the bridge. There is enough space (4 mts) between each beam to create a public space for education, production, and local gathering.





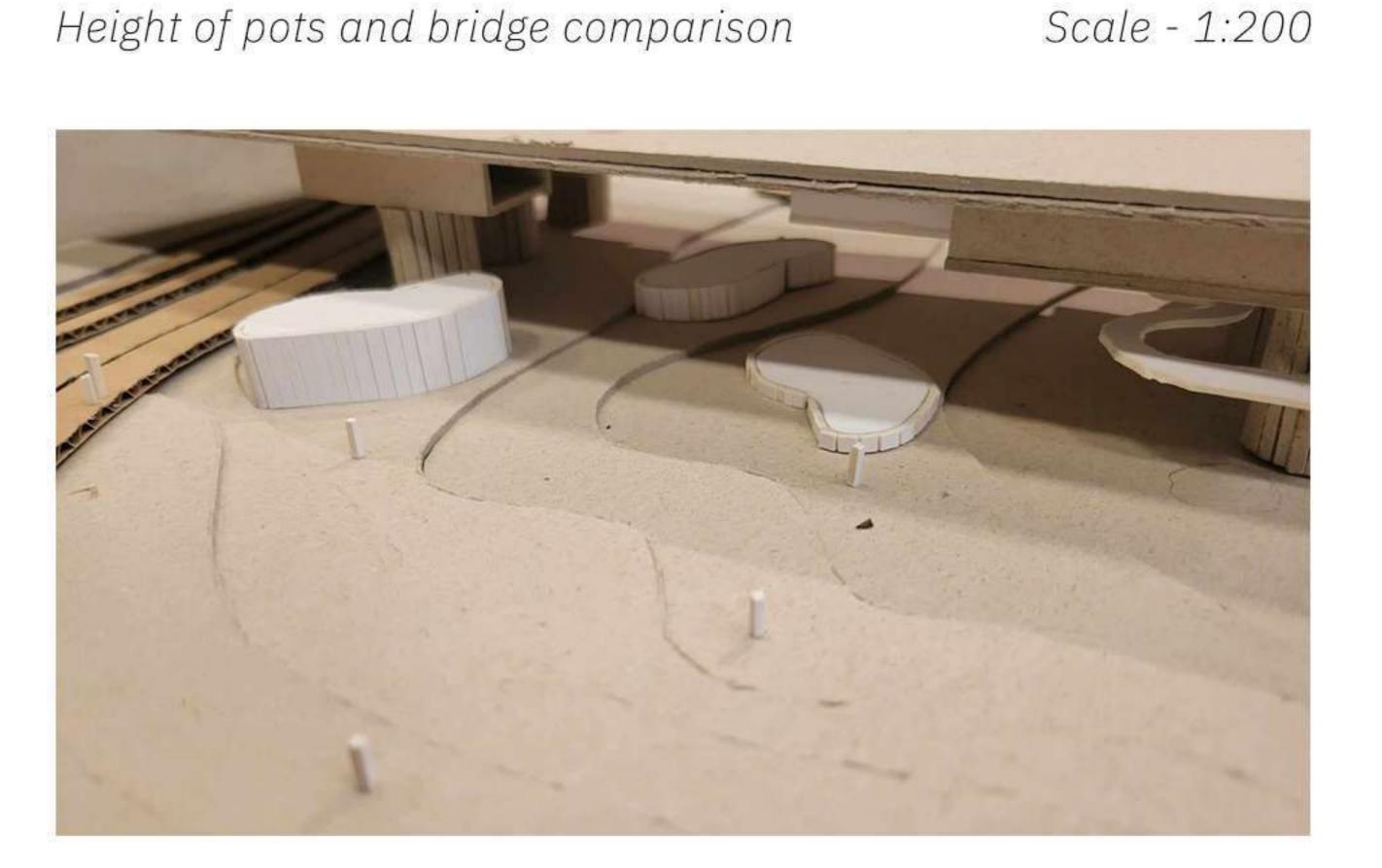
Finally, I also tried to experiment with how the people will aces to this mycelium hub with a meandering path that goes along the higher points of the bridge in relation to the terrain, creating an interesting path that invites people to enjoy the space and be part of the activities celebrated in the hub while enjoying the landscape project and understanding the processes happening in it.





Tram lines, cycle lanes and pedestrian paths as a relevant contextual elements

Scale - 1:200



Height of pots and bridge comparison

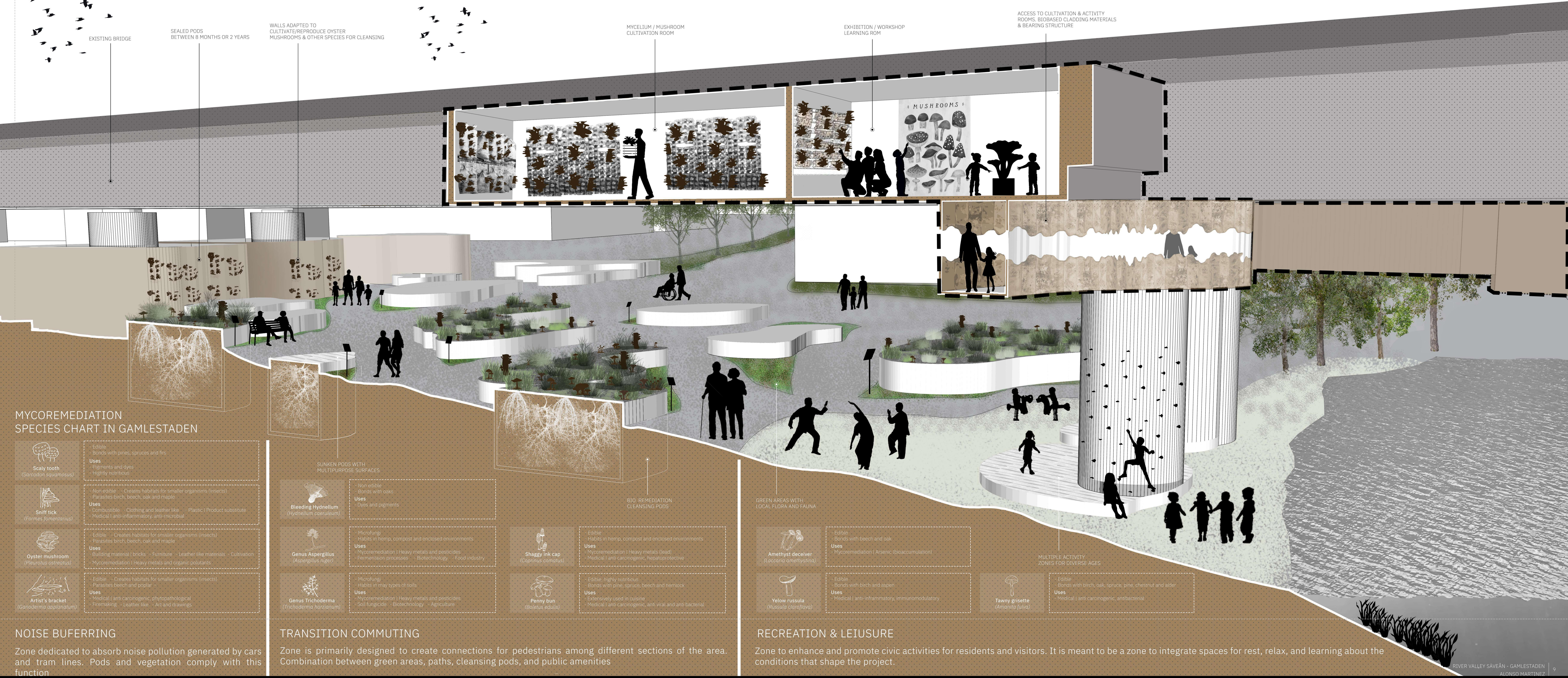


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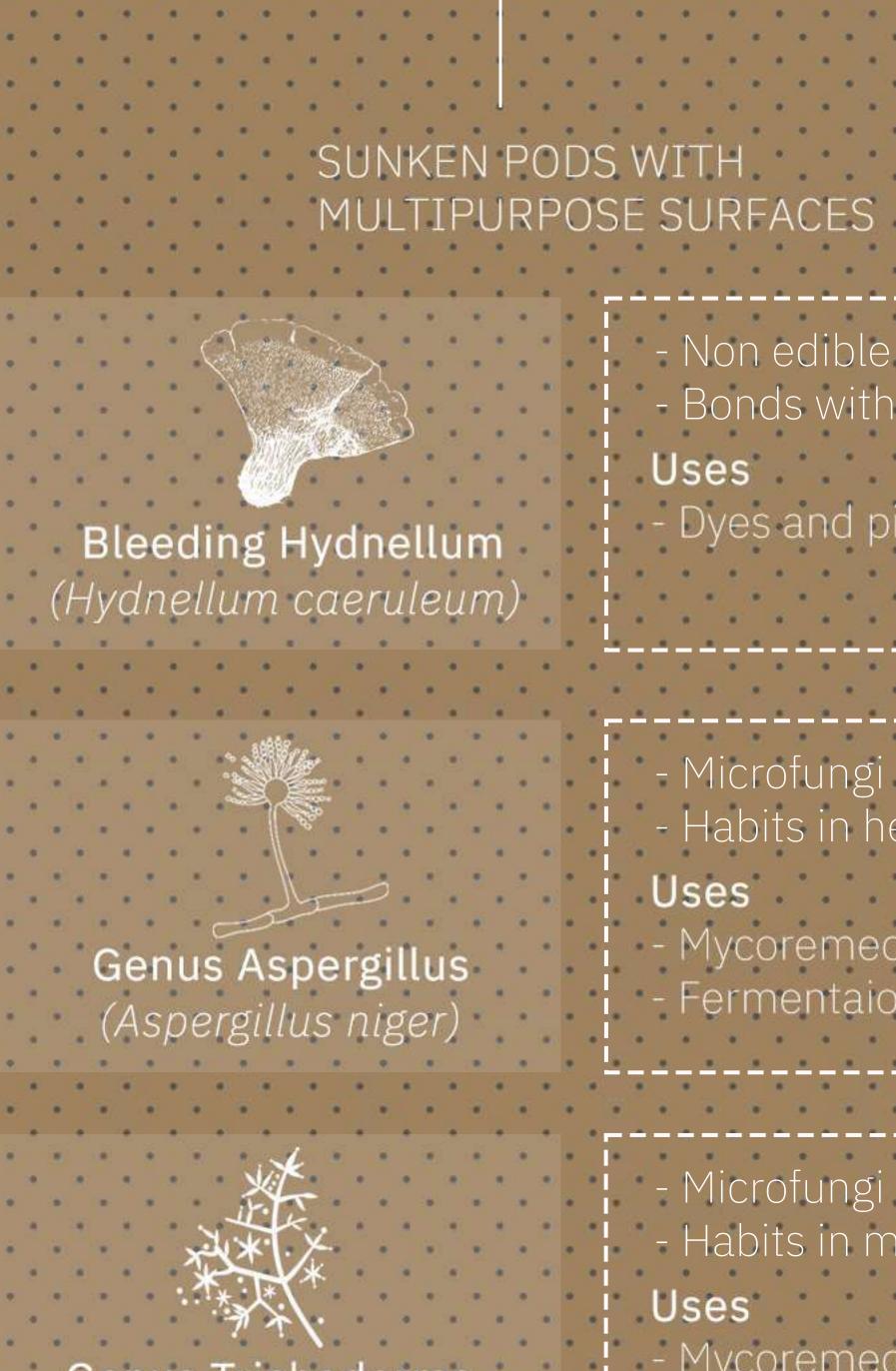
Scale - 1:200

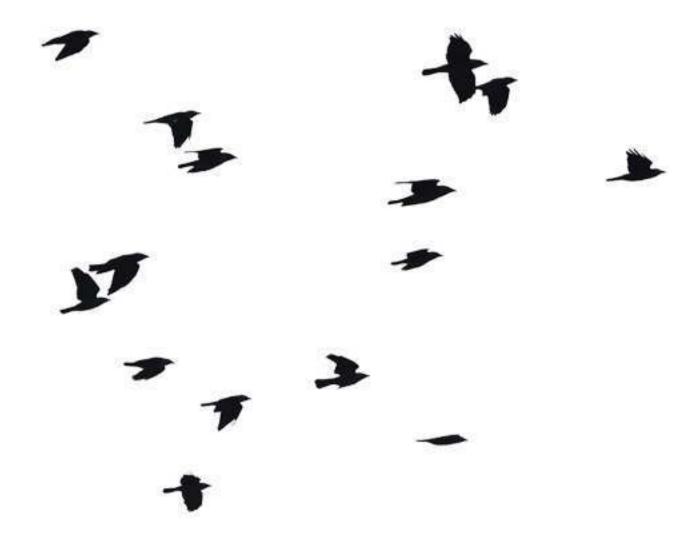


# PERSPECTIVE SECTION









## PROTOTYPE EXPANSION ANALYSIS



### ANALYSIS & OVERLAPPING

To intensify and multiply the beneficial effects of the mycoremediation prototype, it was envisioned to be replicated along Säveån's basin, prioritizing points of focalized pollution and high angular betweenness pedestrian paths. These paths indicate how frequently pedestrians cross when going from one destination to another, therefore, we find the existing paths with higher color intensity and the ones with higher frequency of pedestrian flows. The relevance of this data relies on the awareness reach the prototypes can have when overlapped with its social context, combining the environmental bioremediation aspects and social reach.

#### PROPOSED ZONES

The replication of the interventions relies on bioremediation of the same area, contained, and treated through a period of time while at the same time creating spaces for community and appropriation. All of the prototypes are meant to be installed on infiltration zones, prioritizing the connections between water, land, and social activity and not intervening already existing built environment.

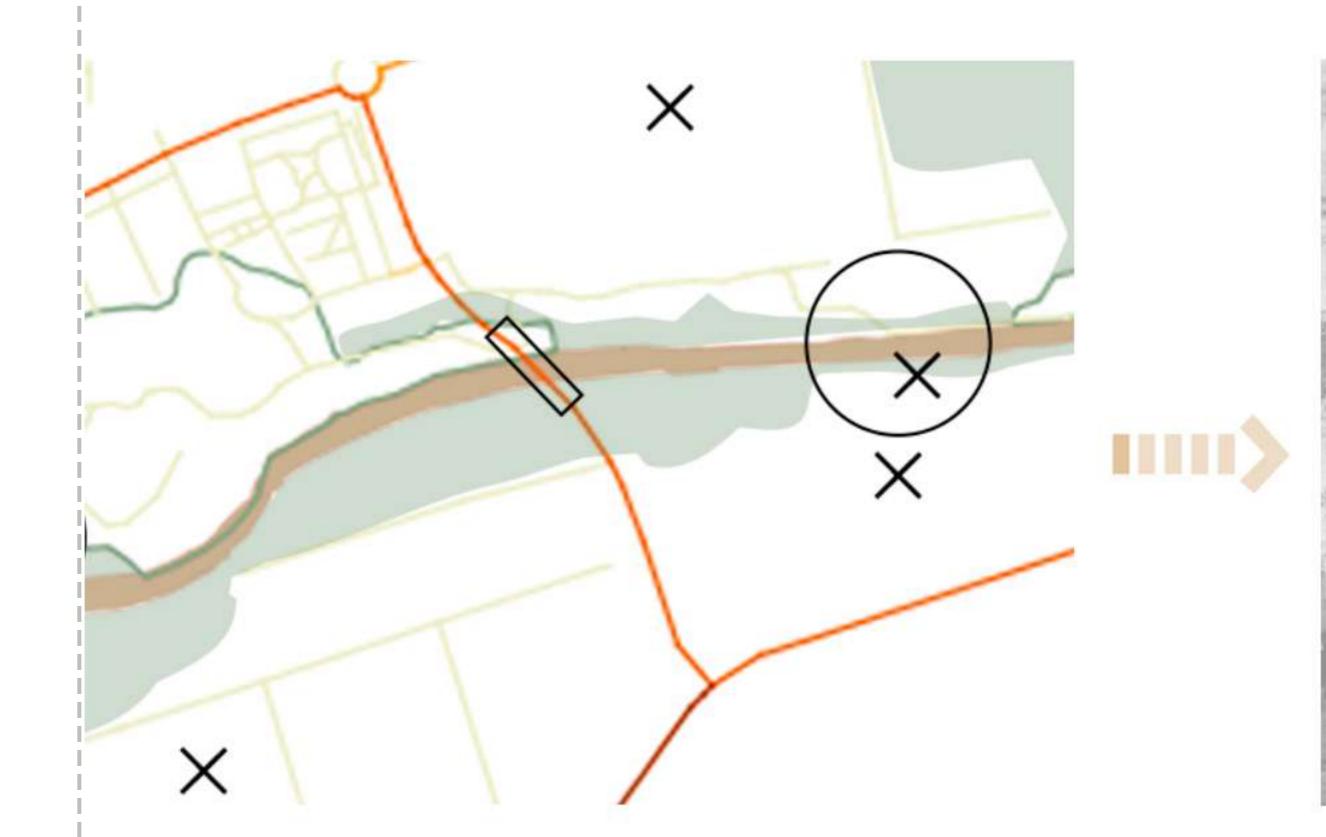


Zone A





Zone B proposal



Х



#### PRIVATE LAND TO SURPLUS VALUE LAND

green

Intervention that departs from negotiations with the owners to improve and existing green adapt propose spaces to cleansing pots that will increase the value of the land and improve the environment health in its proximities.

#### NEW PROJECT

and

expansion will Project depart from landscaping and public space design, adapted to the surrounding land uses, mainly schools

spaces for coexistence,

cleansing of soil, and

biodiversity enhancement.

housing; creating

Zone C proposal



STRATEGIC ADAPTAION

The area close to private homes is already holding a strong biodiversity. The aim here is to thoroughly analyze the natural links between species through bioaugmentation methods (introduction of specific and species, spores, nutrients). Pots will be strategically placed in areas highly contaminated.

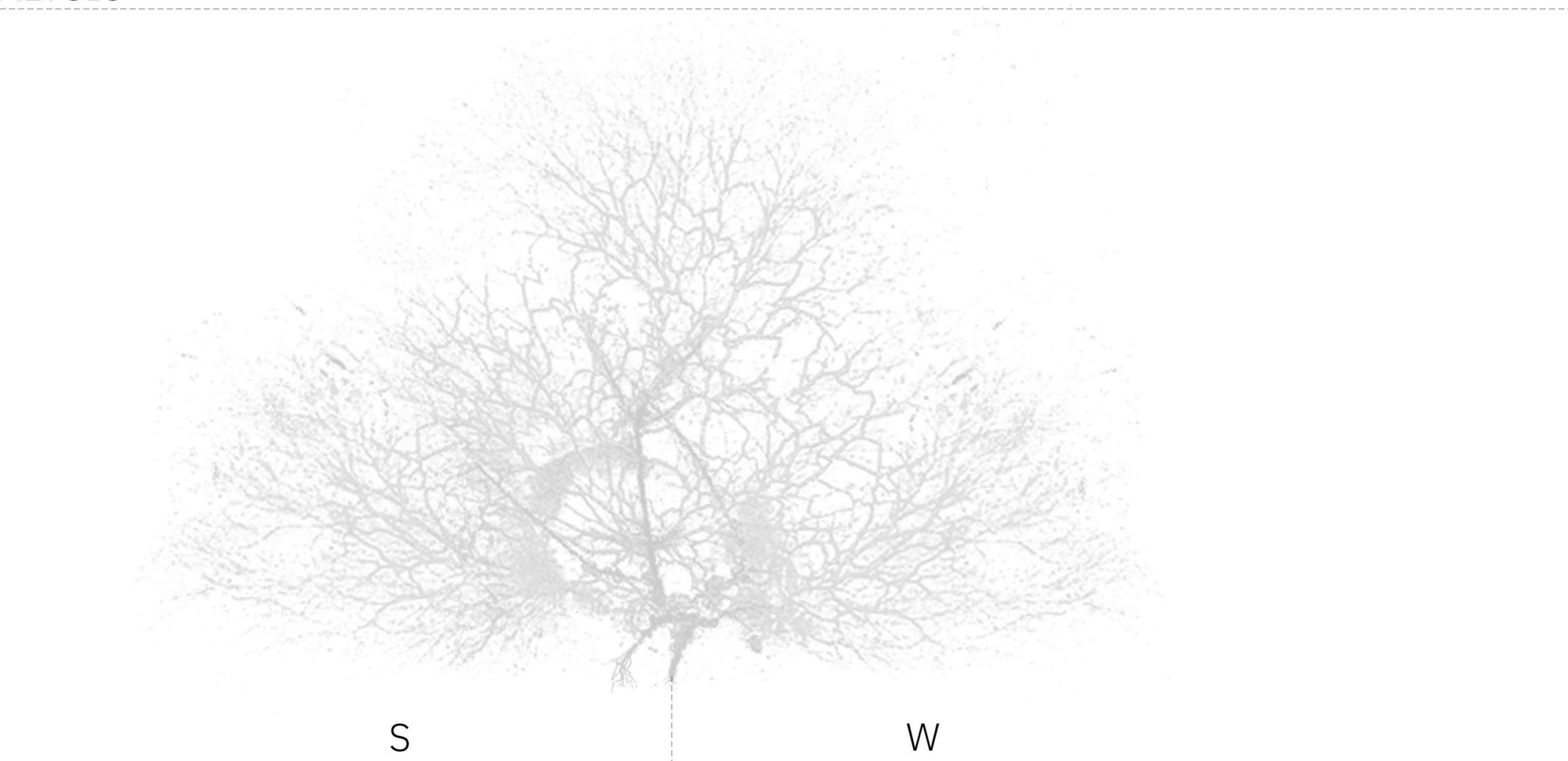
Zone D

Zone C

Zone D proposal

RIVER VALLEY SÄVEÅN - GAMLESTADEN ALONSO MARTINEZ





Strengths

Weaknesses

Multiscalar Circular economy oriented Biodiversity enhancer Degrowth perspective Resilient and adaptative Communitary aligned Participatory and inclusive Educational design Integrative Innovative and holistic

- - - -

Low number of species interactions Low number of activities Adaptations to different mobility capability users Lack of funding to sustain the project Accesibility points Further development of adaptation of spaces in the farm Social organization to coordinate the project through time

Improve accesibility Constructive system assesment Specific adaptation of each specie and their purpose Integrate activities with local biodiversity Link project with surrounding economic activities Broaden the participation of users Incentivate replication of the prototype with different aims Involve government to build stronger links with people Adaptation of architectural design with climate conditions Extension to river and interconnection with water Embrace acuatic biodiversity Extend the prototype to the other side of the bridge Link prototype to other similar projects

Opportunities

1.60

Lack of community participation Extreme flooding that can damage the project The lifespan of biomaterials in the design The increase of pollution in the area Private interests claiming a change of project Death of species and therefore failed objective

Threats

and the state of

RIVER VALLEY SÄVEÅN - GAMLESTADEN 11 ALONSO MARTINEZ