

UNFOLDING QUEBRADAS

Informality as a Method

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Building Technology Tutor: Pierre Jennen

Yağız Söylev - 4604156



"How to unlearn being an architect?" J. Turner

Valparaíso, 1906

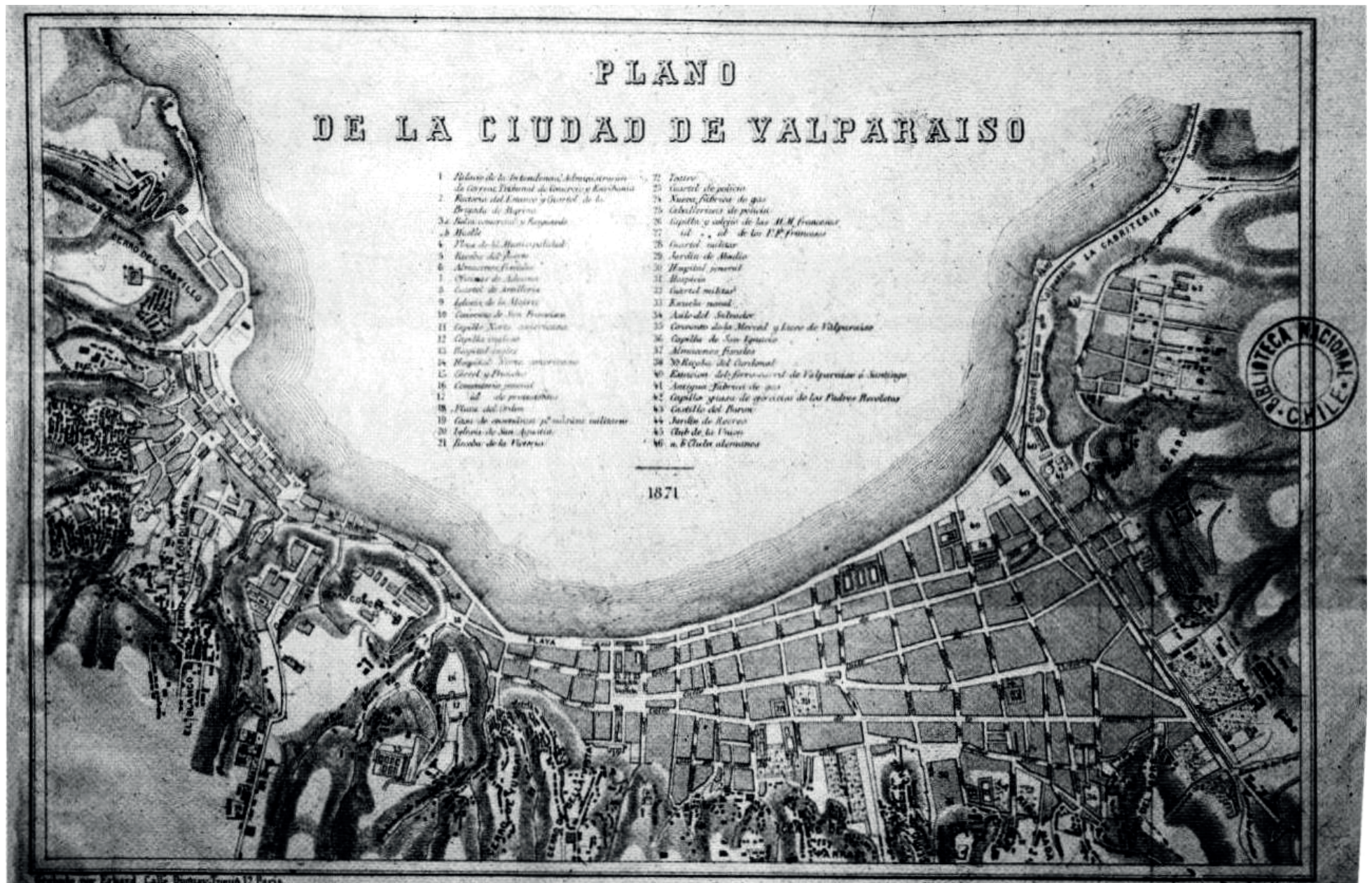
Source: Archivo Familia Saavedra Yoacham



The Dichotomy of Formality and Informality

Valparaíso, 2017

Source: Epicentrochile.com



(IN)Visible Quebradas

1871 Map of Valparaíso

Source: commons.wikimedia.org



“The polis, properly speaking, is not the city-state in its physical location; it is the organization of the people as it arises out of acting and speaking together, (...)It is the **space of appearance** in the widest sense of the word, namely, the space where I appear to others as others appear to me, where men exist not merely like other living or inanimate things but make their appearance explicitly.”

H. Arendt, *The Human Condition*

When is the public space?

“Public space is always an appropriation of an existing space over legal space.”

A. Blackwell, *Public Space: Lost and Found*



Democracy and Public Space

Augusto Pinochet and Regulations concerning the use of public spaces

“Throughout this time, the dimension of citizenship was postponed, the polis had been suspended.”

A. Mayol



Democracy and Public Space

2014 Student Protests in Valparaíso

“The student movement reactivated the policy, gave oxygen and blood to a society that inhabited a damaged democracy.”

A. Mayol

Source: Eliseo Fernandez, Reuters



Democracy and the State

Informal settlements on quebradas as a result of the state policies

Appropriated Space vs. Dominated Space

H. Lefebvre



Socio-Spatial Appropriation

The quebradas are built and managed by the inhabitants themselves.

Due to their autonomous nature, these territorial appropriations constitute their own identity, rules, spatialities, representation.

Image Source: Andrea Pino Vasquez



Temporal Scales of Appropriation

Urban Scale: Choosing a suitable place to settle. Distribution of the land between different families. Main access paths and big public spaces such as football courts.

Single Family Scale: Settlers build their houses, which varies from being a single room, a mediagua or a hut. The appropriation proceeds unplanned and illegally.

Neighbourhood scale: The practice of self-urbanisation of common spaces. The supply of water, electricity, sewage and public services are constituted in this latter stage.

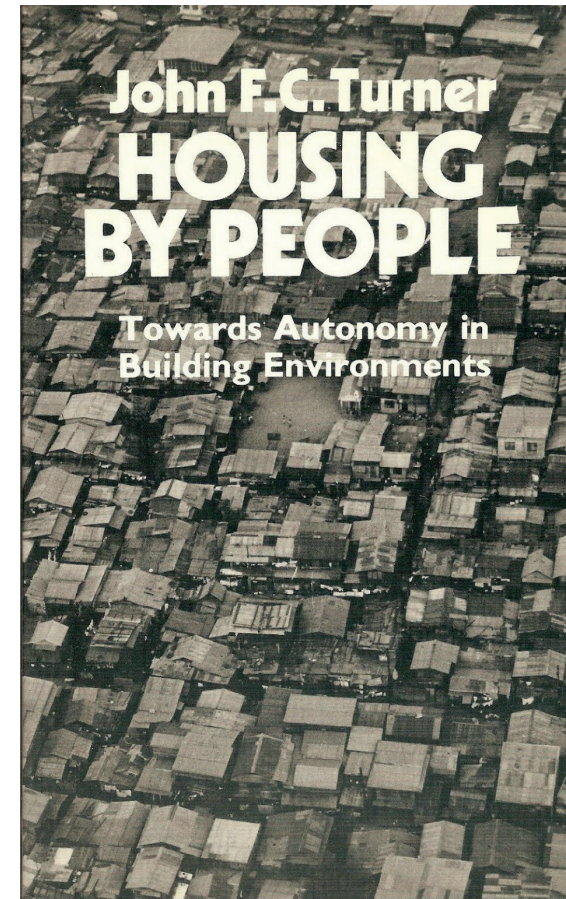
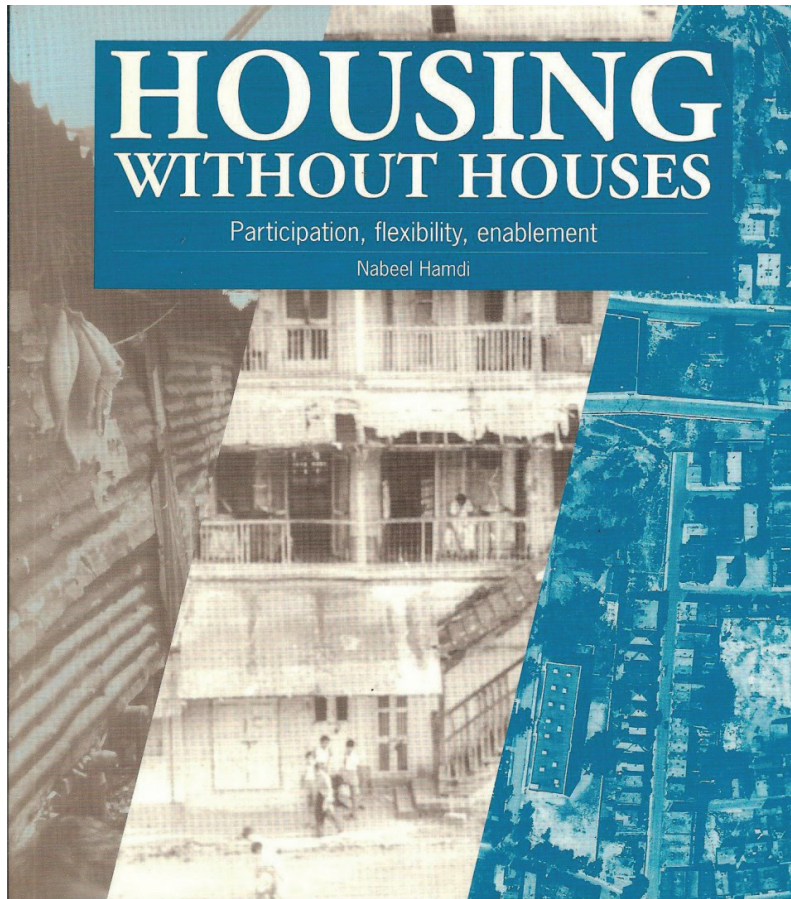
Source: Andrea Pino Vasquez



According to Andrea Pino Vasquez, the four phases of public space appropriation in quebradas are as following:

1. Marking the place with the events of everyday life
2. Naming the place, giving identity
3. Defining the borders of the place
4. Space is being respected as a public appropriation

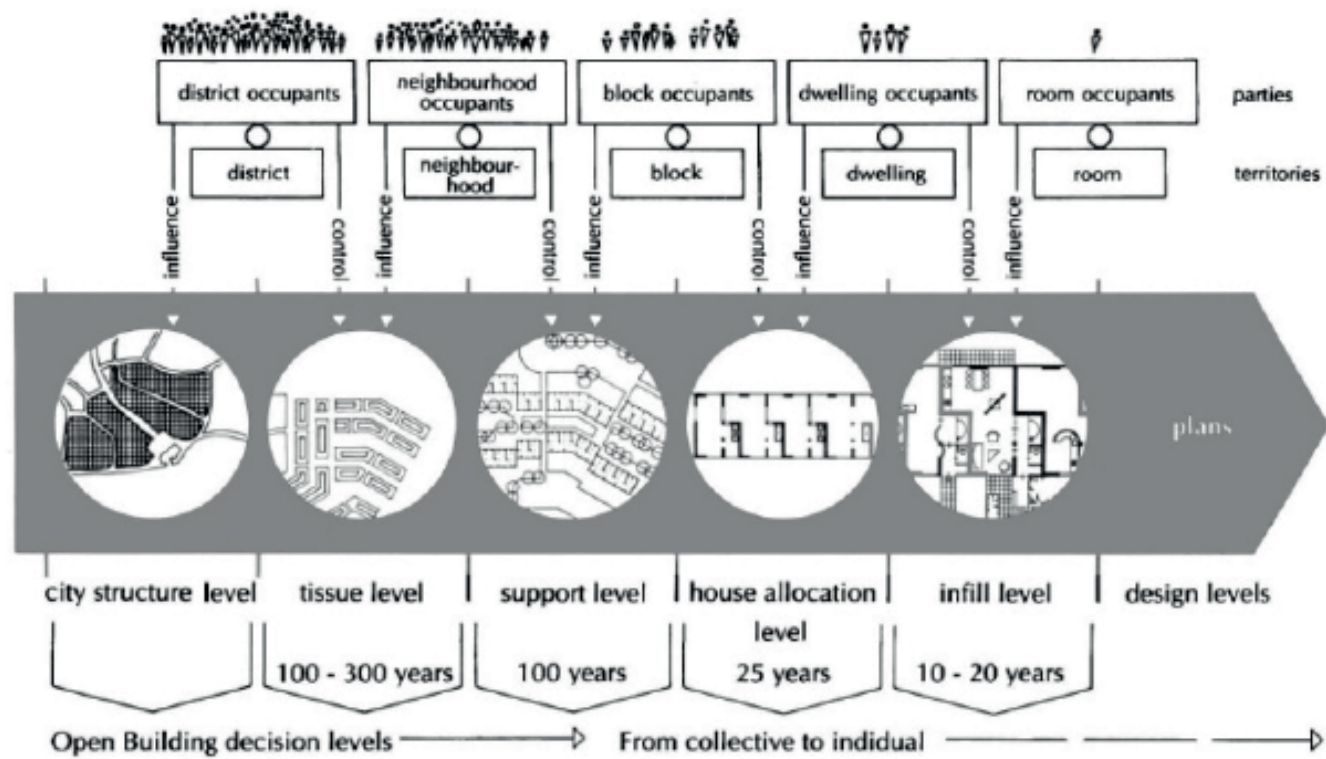
Source: Andrea Pino Vasquez



Participatory Approaches

The advantages of participatory processes according to Nabeel Hamdi

The three laws of John Turner



John Habraken

Open Design Approach

Time scale in architecture
Distributed decision-making

Image Source: Age van Randen

Infrastructure	Municipality MINVU Regional Government	Architecture Schools PlanCerro	Architecture Schools PlanCerro	PlanCerro
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Agriculture	Ministry of Agriculture FOSIS	Ministry of Agriculture	JAB	JAB
Business	FOSIS SERCOTEC Regional Government			
	Financing	Planning	Realization	Management

Stakeholders and Organizations

Government NGO Other



Iconoclastas
Collective Mapping



Cinivit UV and CIGIDEN
DRONLAB
Collective Mapping

Stakeholders and Organizations



Municipality of Valparaiso and SUBDERE
 Mi Cancha, Mi Quincho
 Barbecue for football courts
 Football courts becoming meeting points



SERCOTEC
 Funds for Small Businesses

Stakeholders and Organizations



MINVU
Quiero mi Barrio
National Grant Program
Redevelopment of neighbourhoods



Fundación Mi Parque + Fundación Aldea + Junto al Barrio
Collective design and collective construction
of parks and green areas
Providing assistance after the construction



Parque Escuela 36, Cerro Larrain
Participatory Construction
Activating an abandoned area by providing access

Stakeholders and Organizations



Wave
 scarcity and creativity studio (scs)
 Oslo School of Architecture and Design (AHO)
 Activating an abandoned building with a theater



Ludoteca
 Minga Valpo
 TU Delft
 Constructing with the traditional construction techniques
 Sharing the mutual knowledge in a damaged area

Stakeholders and Organizations

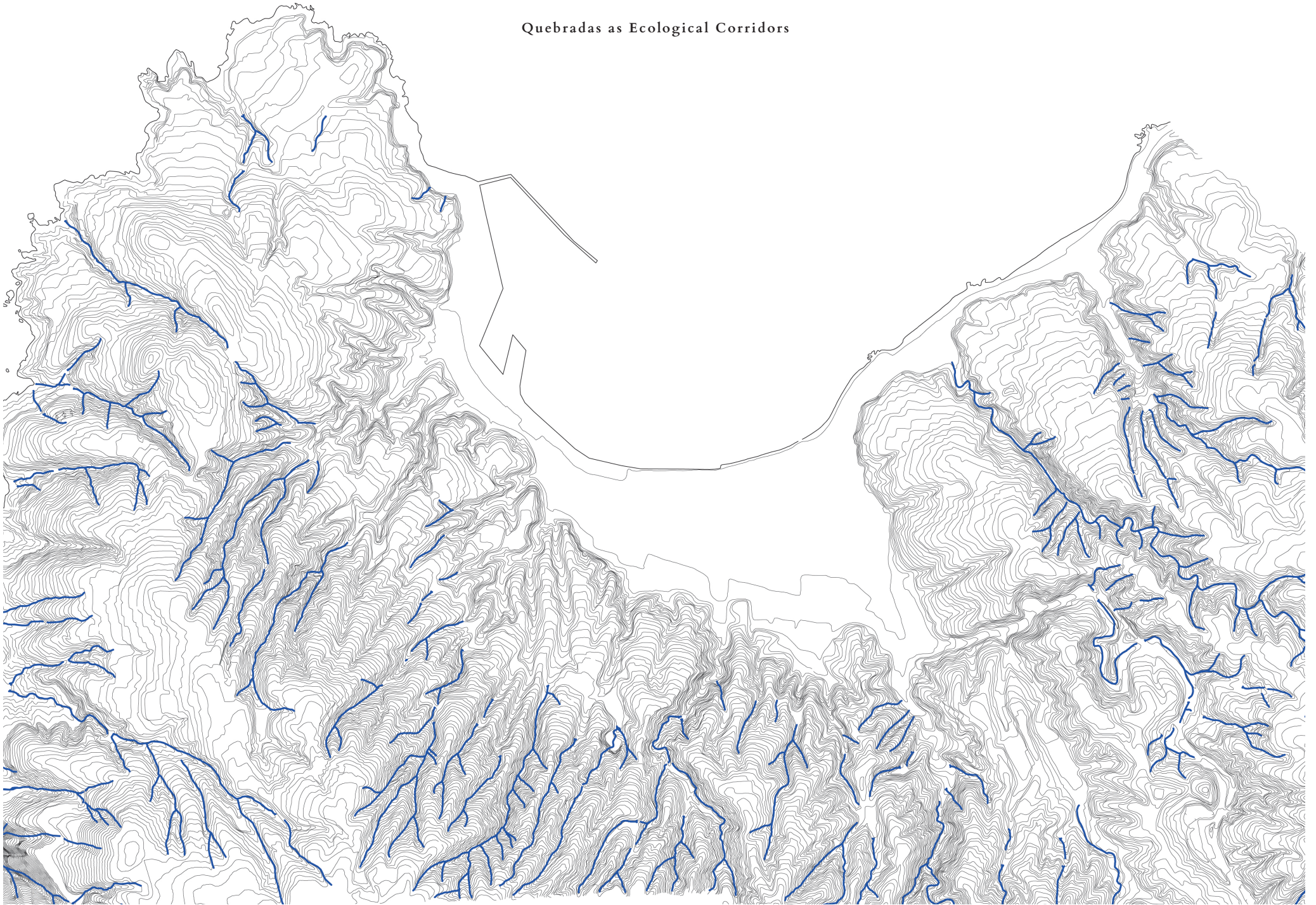


Ciudad Abierta
Pontificia Universidad Católica de Valparaíso
With the participation of Methods and Analysis Students
“La Ronda”

Materiality and Tectonics



Quebradas as Ecological Corridors





2014 Fire

800 hectar area, at least 2500 houses were destroyed.
The fire left 11,000 people homeless.

Image Source: t13.cl/78098



2014 Fire

The hills of Valparaíso received international support.
Besides the Government organizations, NGOs and community based organizations gave active support.

Image Source: iach.cl

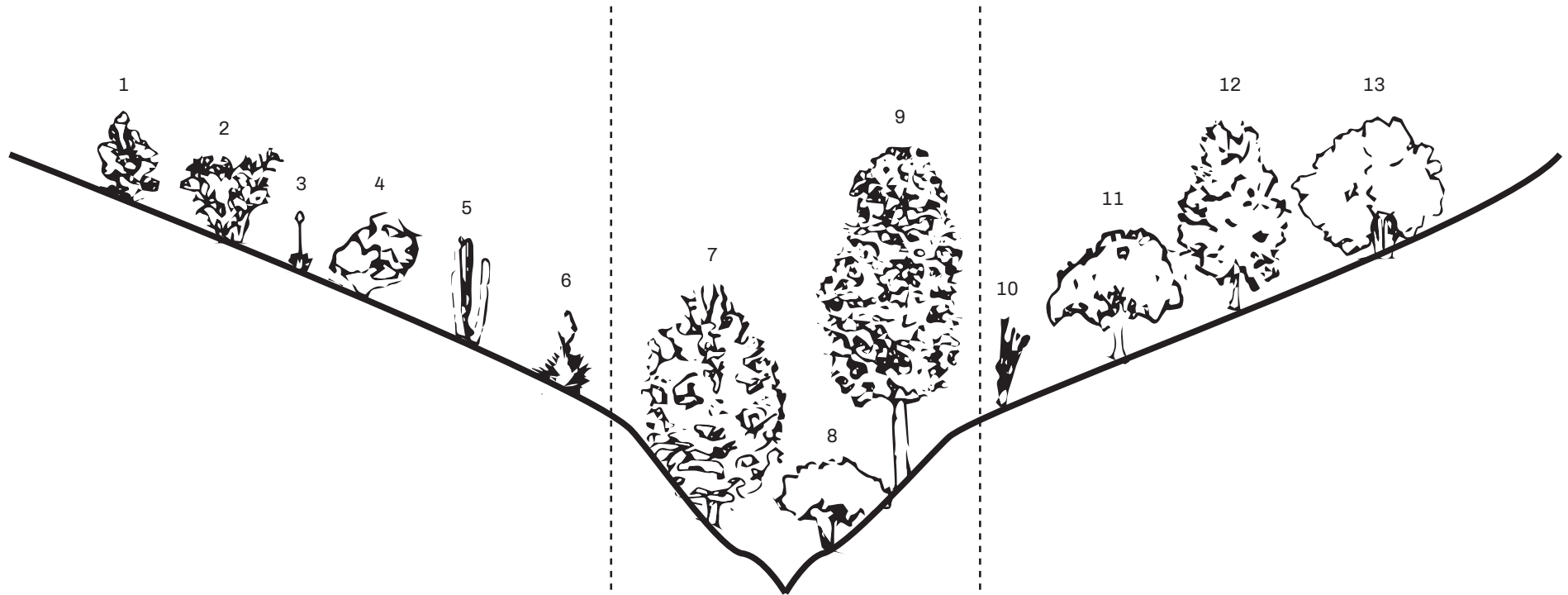


2014 Fire, The Palms Court

Above. September, 2014
Below. November 2014

Image Source: Andrea Pino Vasquez

The Flora of Quebradas



South-Looking Hills

Sclerophyllous Bushes

1. Corontillo
2. Espinillo
3. Chagulillo
4. Litre
5. Quisco
6. Chagual

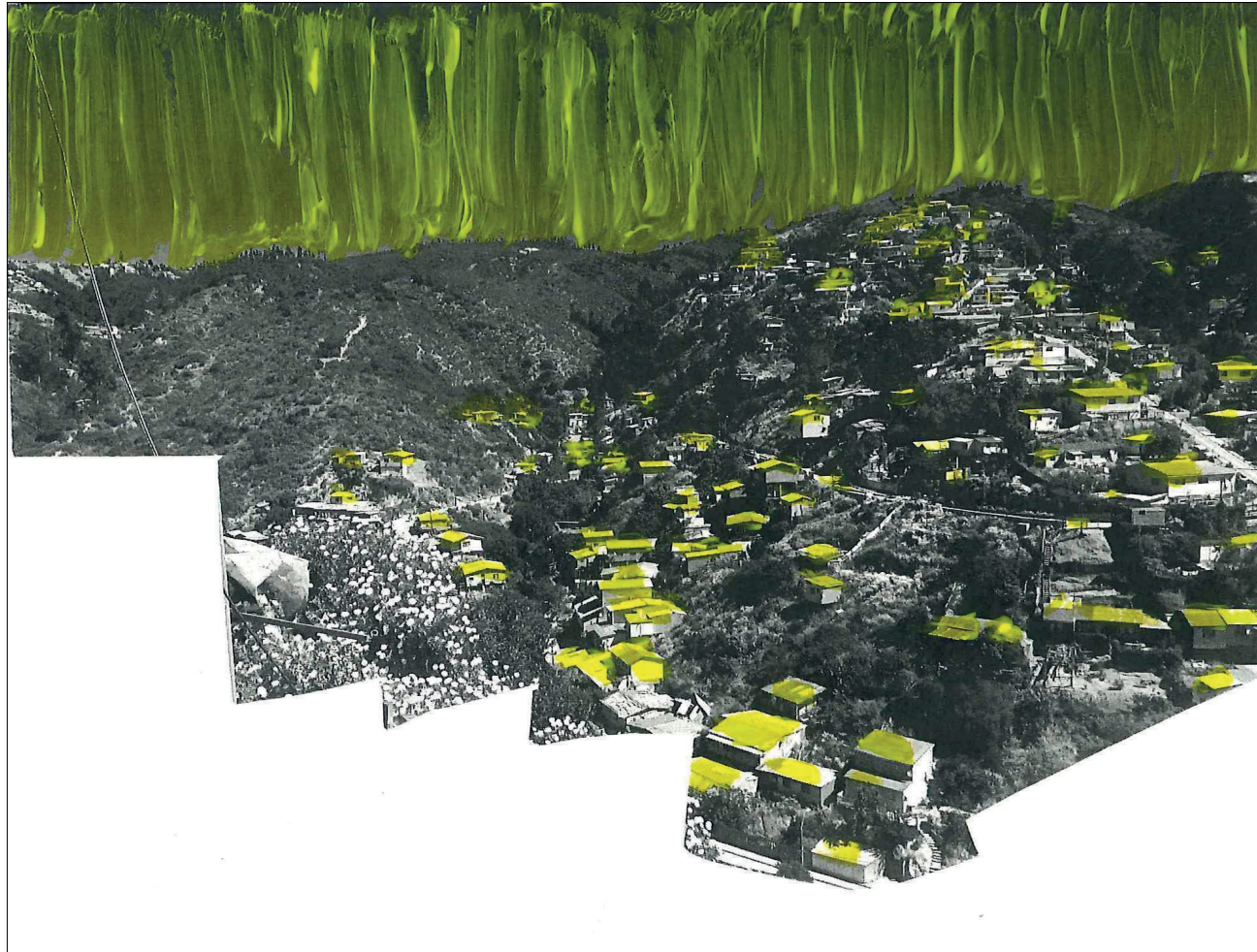
Hygrophilous Flora

7. Patagua
8. Maqui
9. Canelo
Cañas

North-Looking Hills

Sclerophyllous Flora

10. Quila Chica
11. Molle
12. Peumo
13. Boldo



Rural habits of the inhabitants are evident in the production methods, mostly gardening and farming, and in the names given to the elements of their surrounding, such as rancho.



Mono-functionality of the hills and quebradas pushes the inhabitants to create an informal economy.
Micro-economy of quebradas consists of agriculture and providing goods and services.

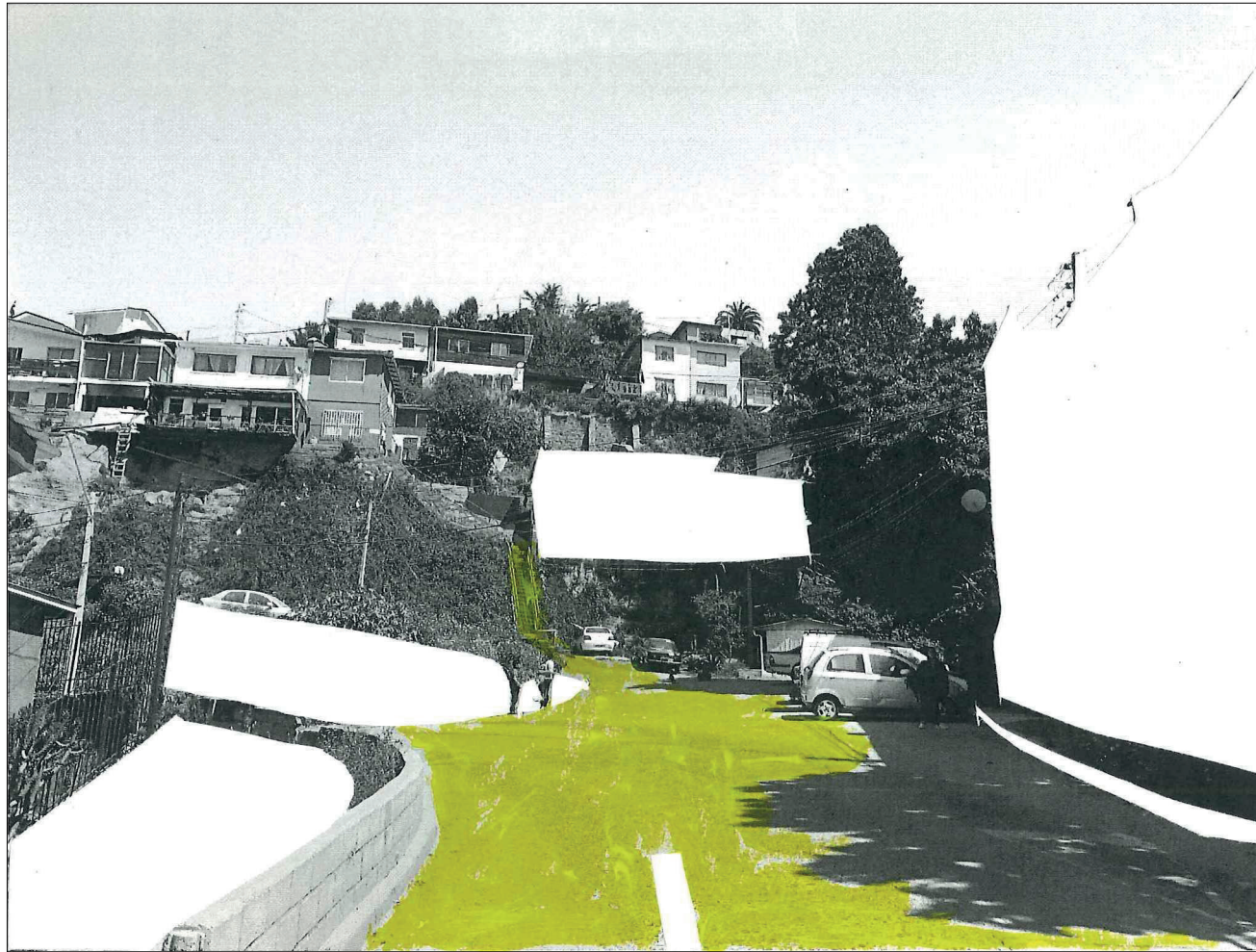


The flat part of the city is the meeting point for most of the citizens.

People commute daily to the *plano* for their daily needs and the city services.



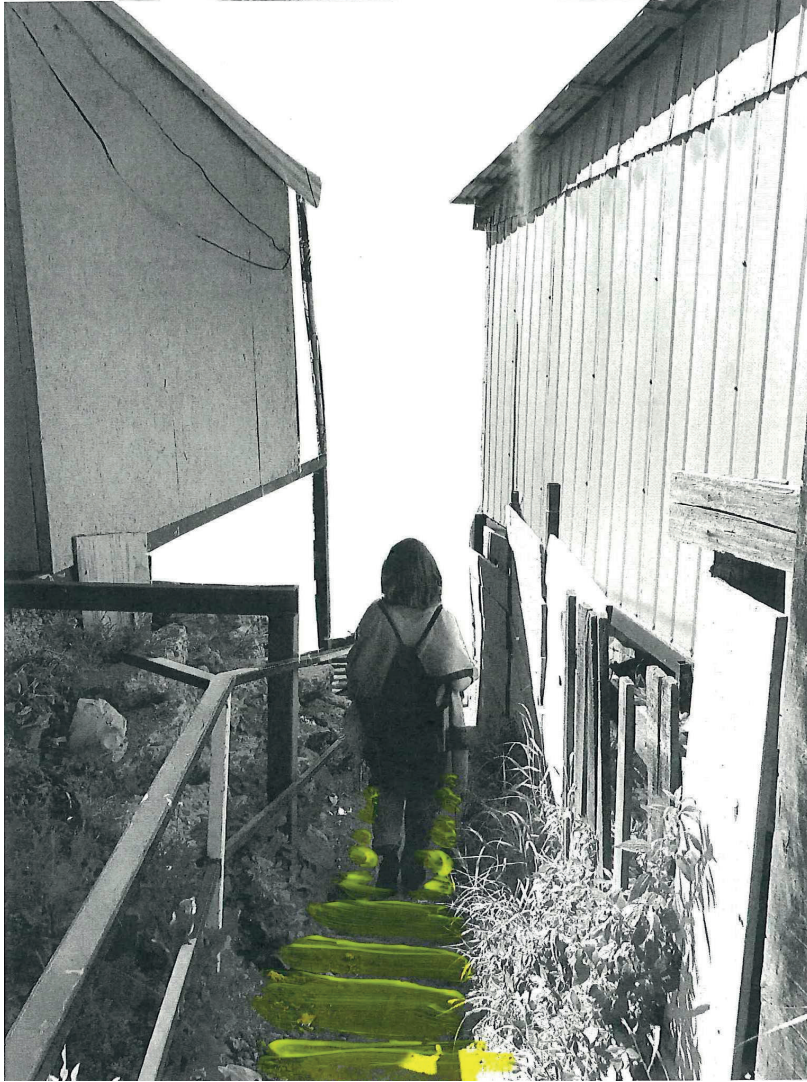
The quebradas are well connected to the city thanks to the distance, the road infrastructure and the public transportation.



The settlers can easily reach the plan and take the “collectivo” shared taxis back to their neighbourhood. The ease of urban mobility benefits the citizens economically and time-wise.



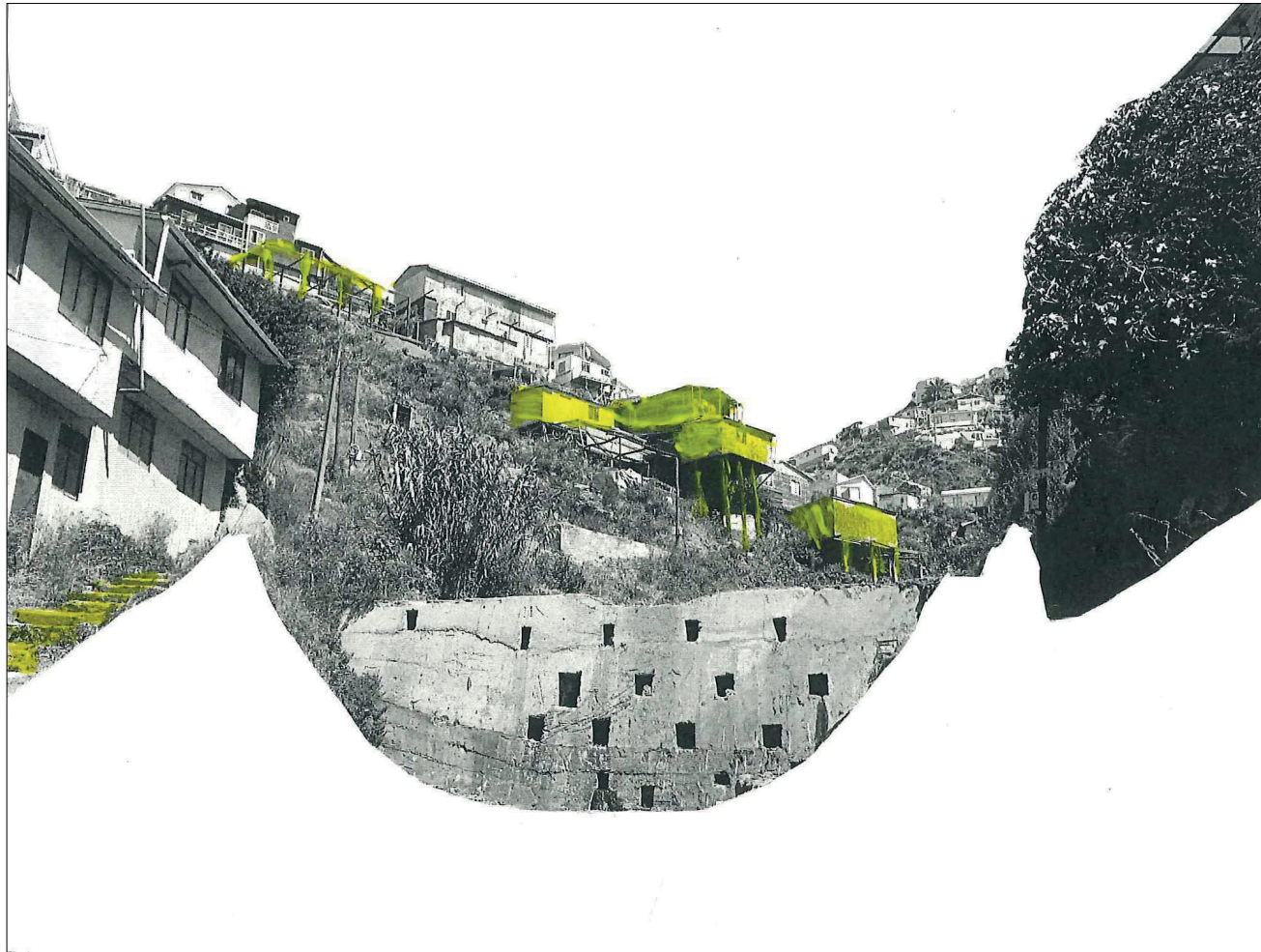
The accessibility ceases to exist inside quebradas. The access to the houses is constituted with self-built steep staircases and dirt paths.



The lack of an infrastructure in the quebrada becomes problematic in the winter conditions, especially for the elderly and disabled.



Similar to the accessibility, the basic services such as sewage, water and electricity don't arrive in these quebradas depending on the consolidation level as a result of the illegal nature of the area.



25% of the Campamentos are situated in Valparaíso Region. More than 10,000 people live in these camps.

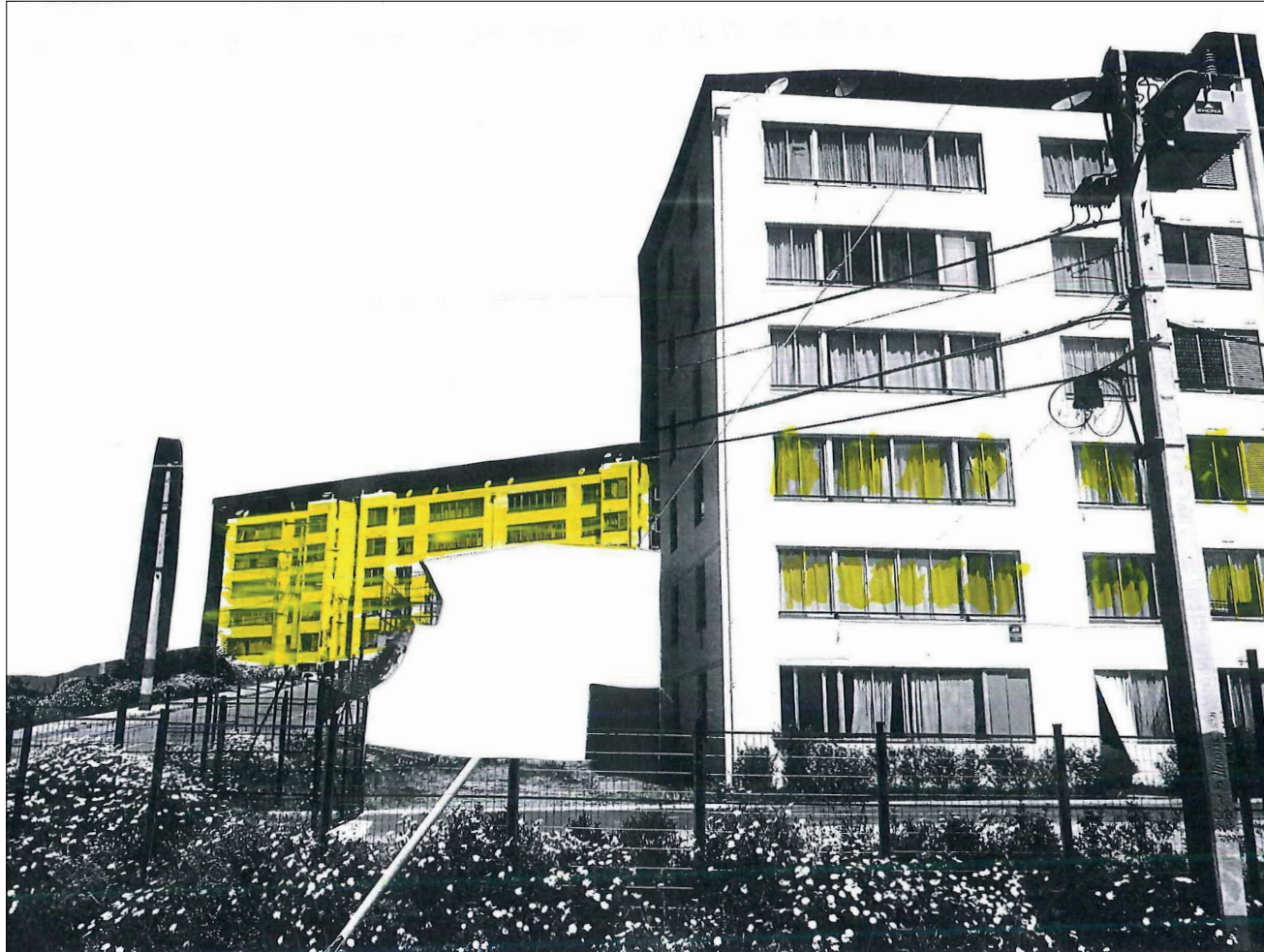
The appropriation is unplanned, spontaneous and constantly evolving. The settlers build their houses on elevated platforms from the materials to which they have access.



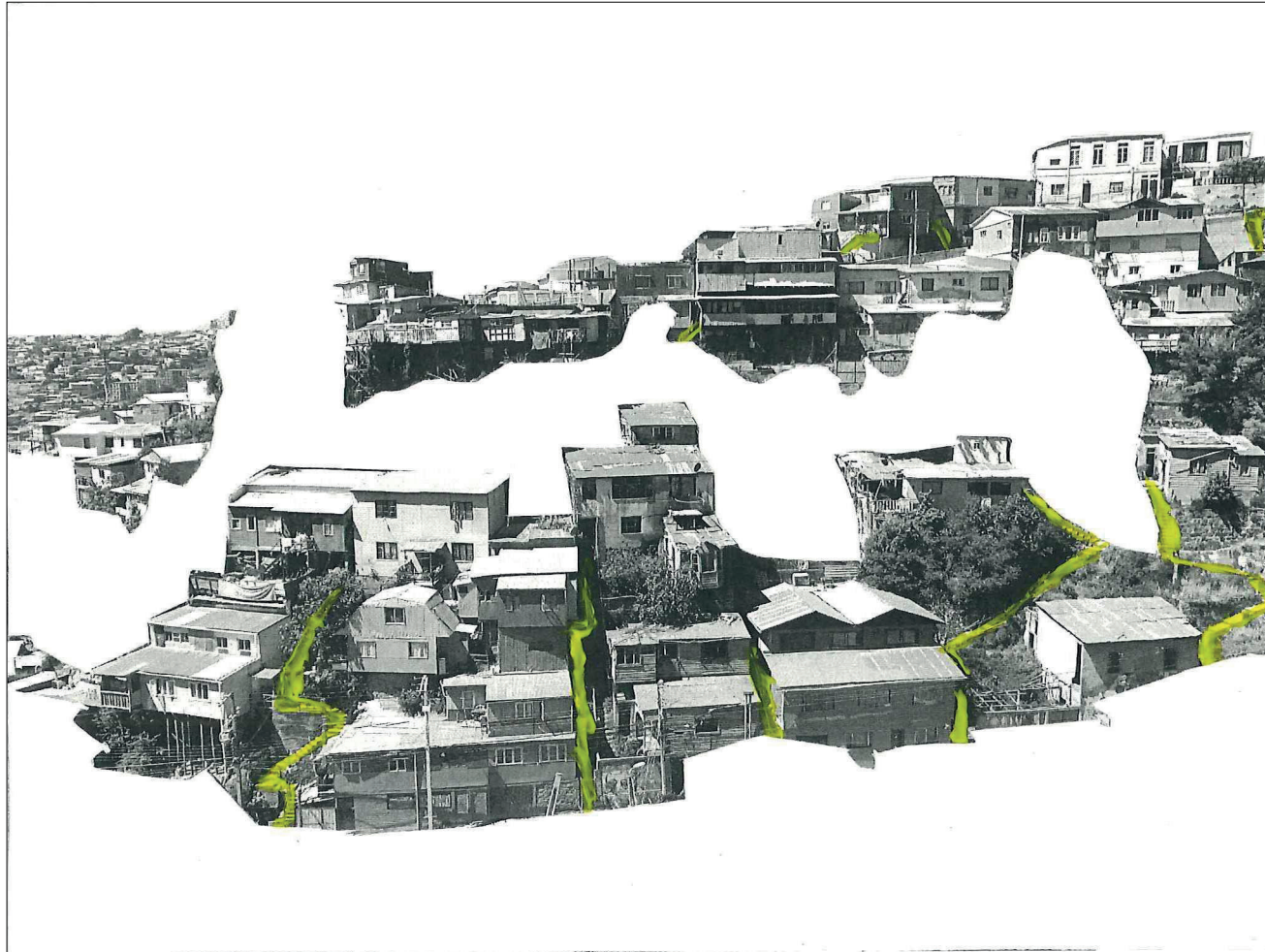
They usually start building with only single room and they expand the house according to the needs and the aspirations of the family.

The community sees their environment as a reward of their efforts and create a deep bond with it.

Quebrada is the identity of its dwellers.



Apart from the disadvantages, having a garden, relatively big houses, good relationship with the community, closeness to the city center are the significant features of these settlements, which is missing, for example, in the social house developments.



Due to the limited resources, inhabitants tend to satisfy their needs primarily.
This results in the lack of common spaces.



“Cada cual pela su chancho solo.”



“Public space expresses democracy in territorial dimension. It is the space of collective use in which the citizens feel free and equal. (...) It shows its diversity and its contradictions and expresses their demands and their conflict. In public space the collective memory is built.”

J. Borja

Image Source: Andrea Pino Vasquez

By acknowledging the rural, spontaneous character of these settlements and embracing the appropriations over which the designer has no control, the project aims to

-increase the resilience by revitalizing the landscape,

-to empower the inhabitants by giving the means of production,

-to improve the living standards by providing accessibility and infrastructure with the freedom of appropriation

-to strengthen the community and encourage the local participation by involving them in the process.



Temporal Scales of Intervention

A - Urban Scale

Actor: Architect

Where to intervene? Why Rinconada?

- Affected by the 2014 fire
- In healing process
- Mutual knowledge in the area
- Low consolidation
- Urban/rural threshold

B - Single Family Scale

Actor: Inhabitants

No intervention

C - Neighbourhood Scale

Actor: Architect, Inhabitants, Architecture Students, Government, NGO's

- Reading, Analysis
- Collective Mapping
- Collective Construction
- Assistance and Training

This stage of the strategy consists of eight interventions:

1. Landscape Revitalization
2. Community Center - The Tribune
3. Community Gardens
4. Pathways (Rural)
5. Ex-Motel Competititon
6. The Bridge - Market and Workshop
7. Pathways (Ruins)
8. Panoramic Spot Competition

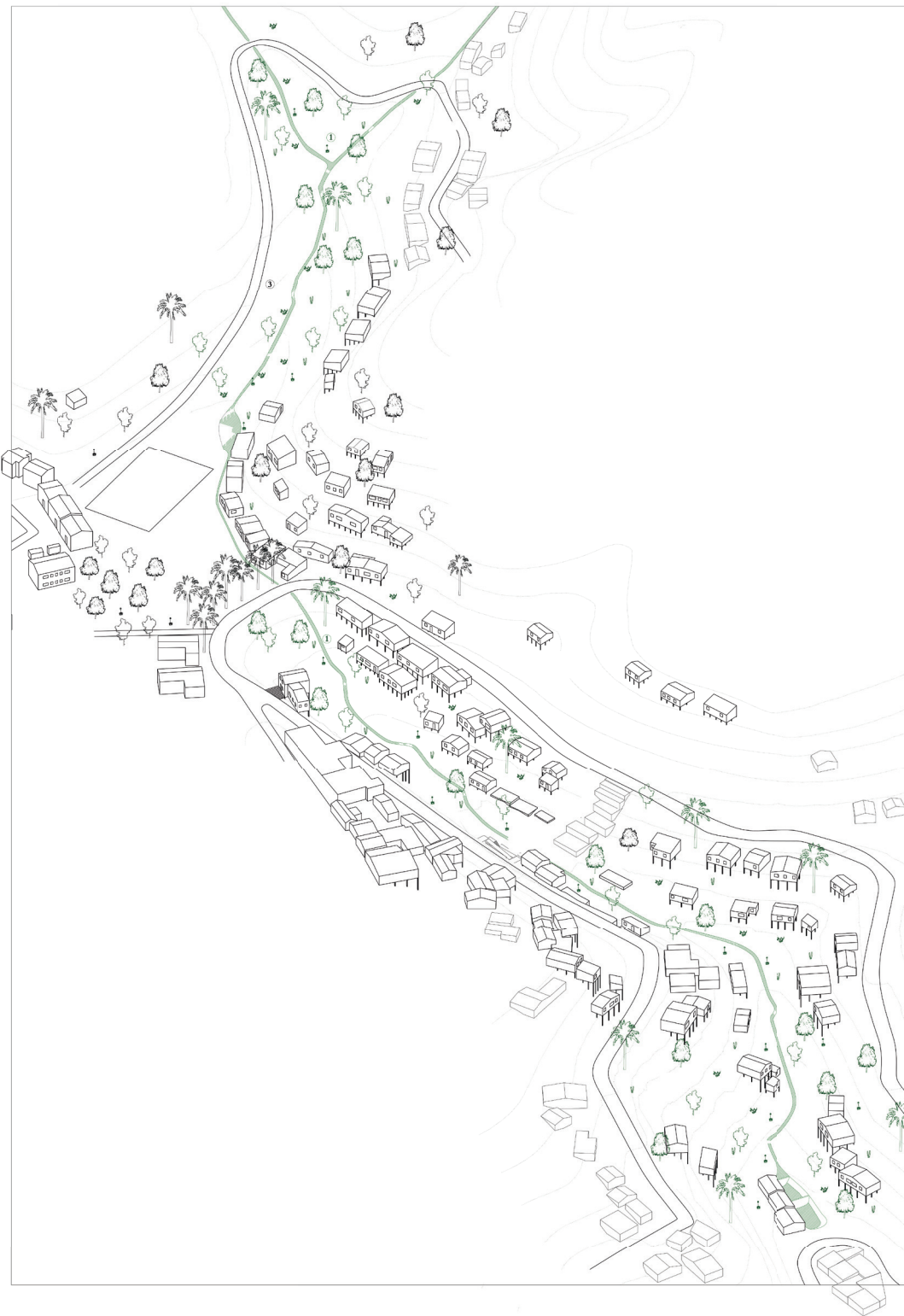
The stages are ordered according to the starting dates of the interventions.

D - Appropriation and Management

Actor: Inhabitants, NGO's

- Ongoing process
- NGO assistance and training
- New volumes, functions and houses

The appropriation which is shown in the image depicts one possible appropriation scenario out of many.



Temporal Scales of Intervention

1 - Landscape Revitalization

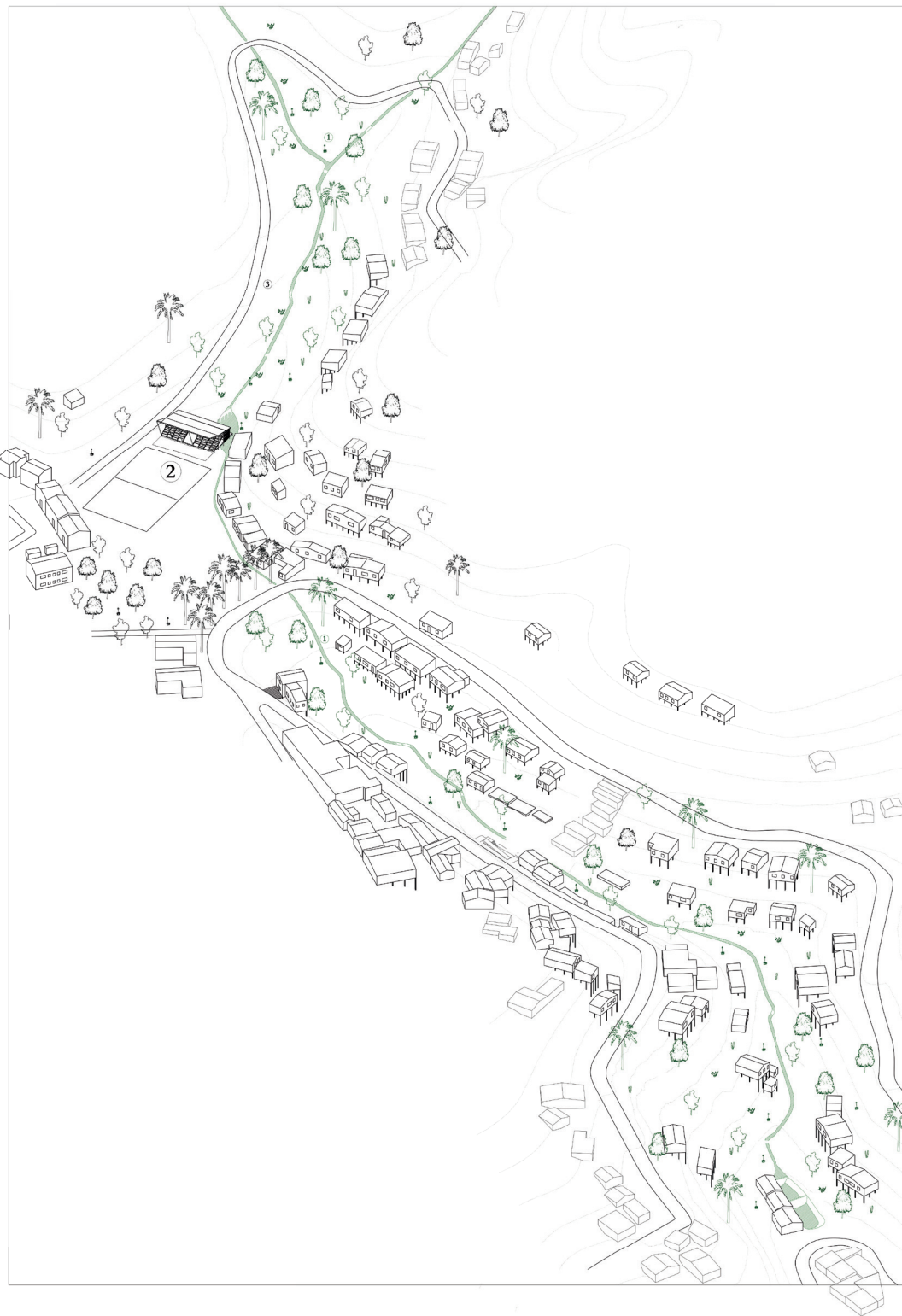
Actor: Government, NGO's, Inhabitants

Time: 6-12 months

*Financing: Ministry of Environment,
Ministry of Agriculture, Regional
Government*

*Planning: Ministry of Environment,
Ministry of Agriculture, Valpo Interviene,
Fundacion mi Parque, Inhabitants*

*Realization & Management:
Valpo Interviene, Fundacion mi Parque,
Inhabitants*



Temporal Scales of Intervention

2 - Community Center - The Tribune

*Actor: Architect, Government,
NGO's, Students, Inhabitants
Time: 3-6 months*

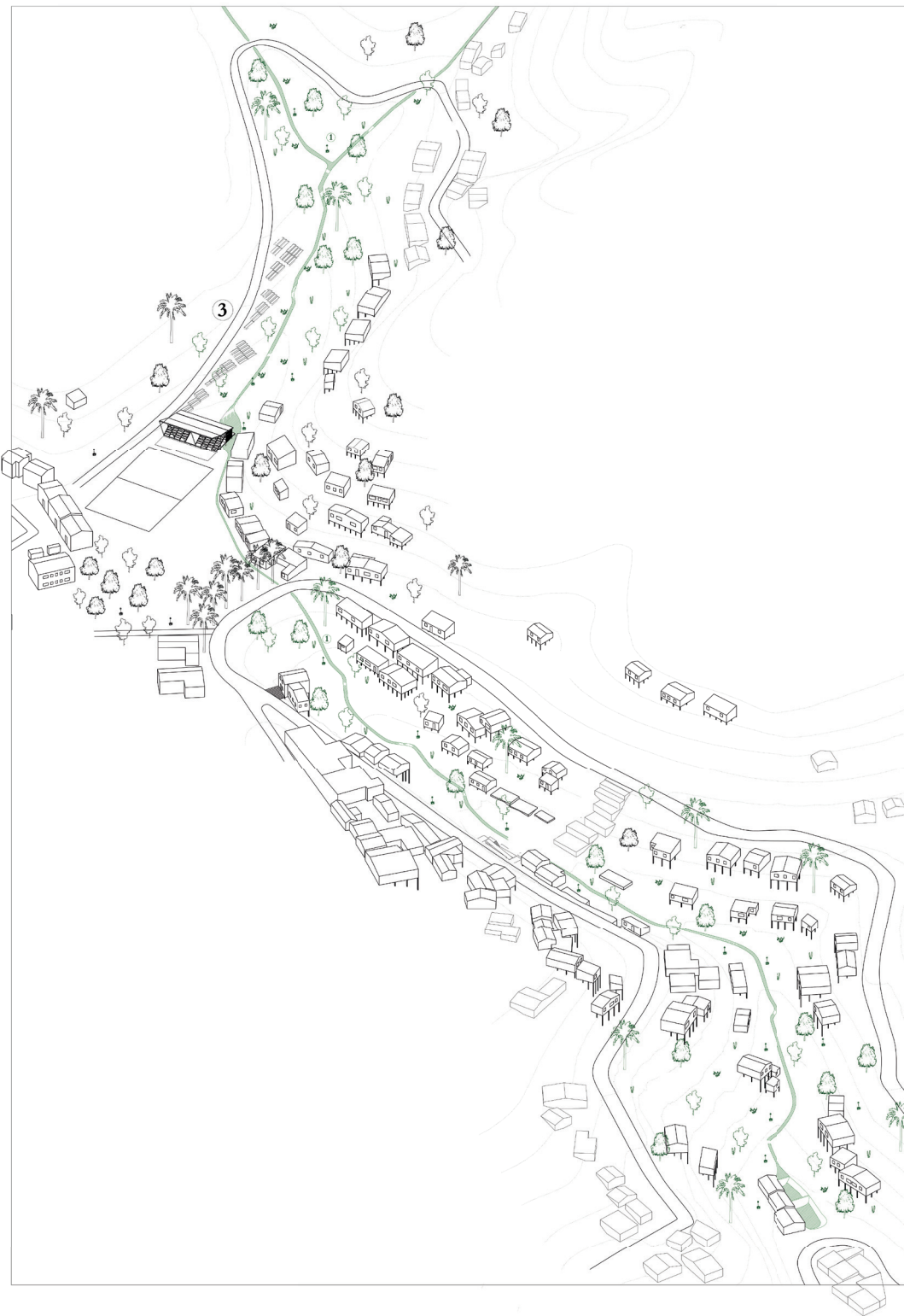
*Financing: Municipality, Subdere
(Mi Quincho, Mi Cancha)*

Planning: Architect

Realization: Students, Inhabitants

Management: Inhabitants

While the construction of the pathway continues, only the roof of the tribune is constructed to house the tools and materials, as well as the production.



Temporal Scales of Intervention

3 - Community Gardens

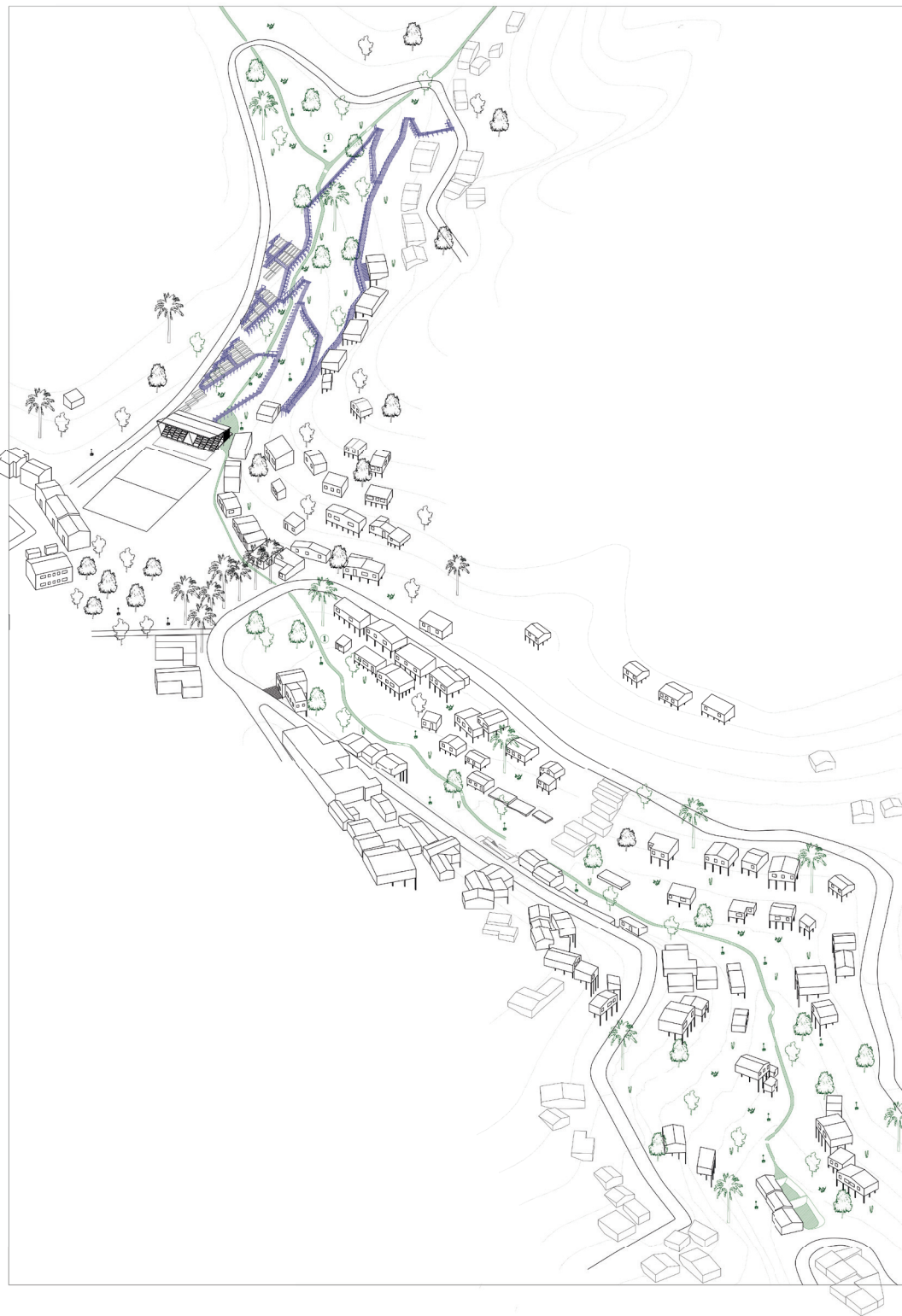
Actor: Architect, NGO's, Students, Inhabitants

Time: 1 month

Financing: Ministry of Agriculture

Planning: Architect

*Realization & Management:
FOSIS, Fundacion mi Parque,
Inhabitants*



Temporal Scales of Intervention

4 - Pathways (Rural)

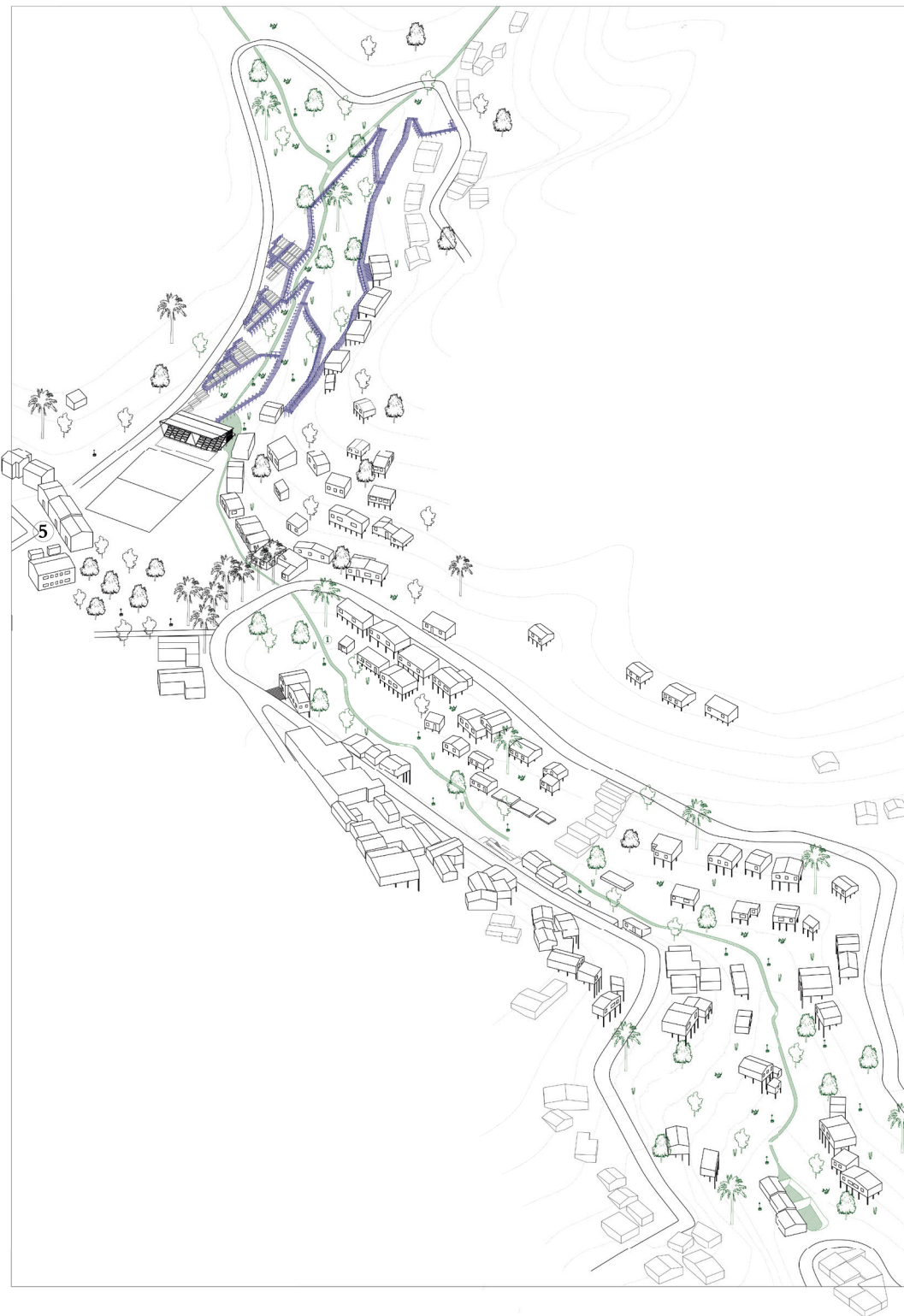
*Actor: Architect, Government,
NGO's, Students, Inhabitants
Time: 3-6 months*

*Financing: MINVU, Municipality,
FOSIS*

Planning: Architect, Students, Inhabitants

Realization: Students, Inhabitants

Management: FOSIS, Inhabitants



Temporal Scales of Intervention

5 - Ex-Motel Competititon

Actor: Government, NGO's,

Inhabitants

Time: 12-36 months

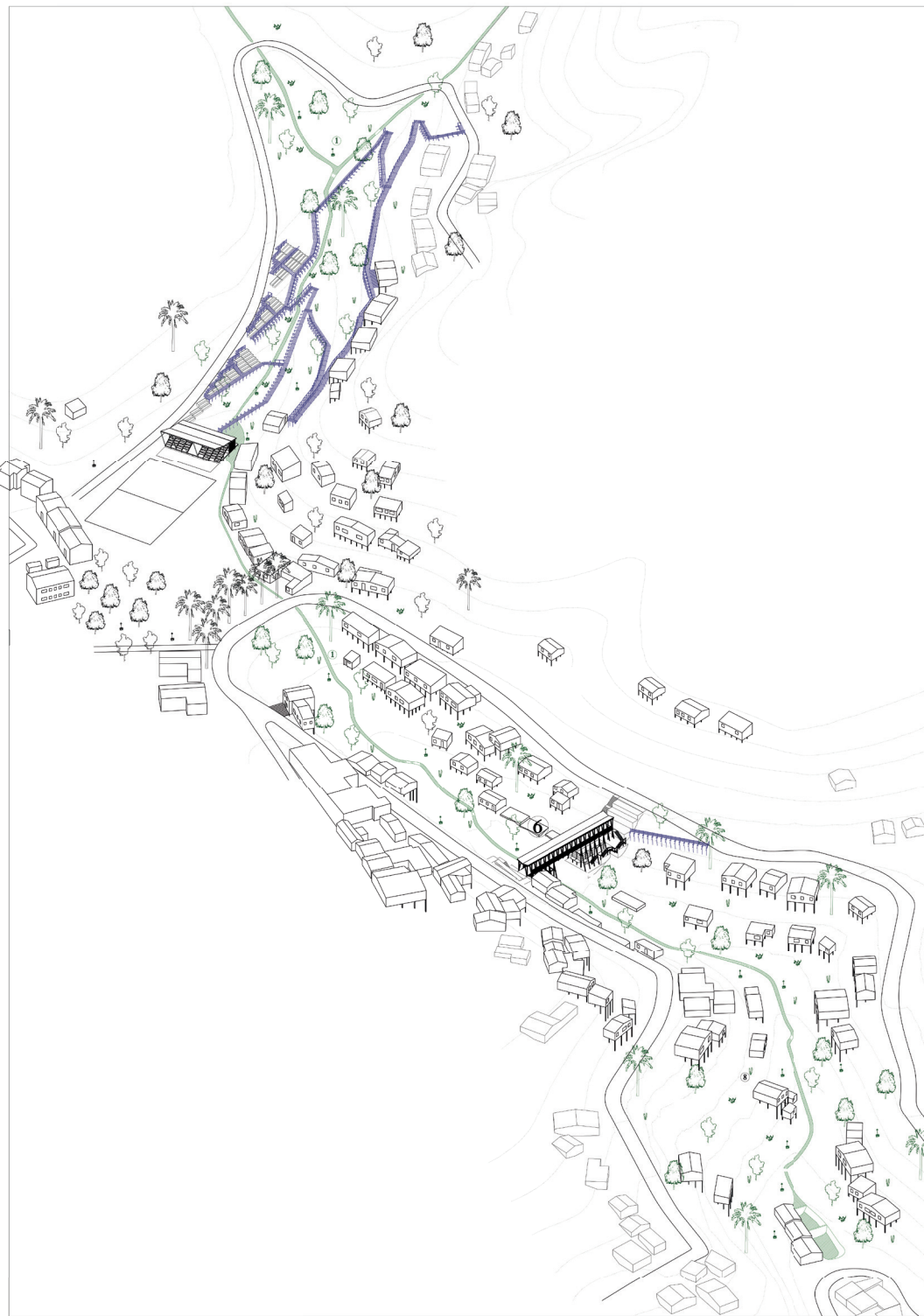
Financing: MINVU, Municipality

Planning: Competition by PlanCerro

Realization: Municipality, PlanCerro, Inhabitants

Management: PlanCerro, Inhabitants

The competition deals with the public spaces in the area and tries to open up the ex-motel area which was affected by the 2014 fire to the public use.



Temporal Scales of Intervention

6 - The Bridge - Market and Workshop

*Actor: Architect, Government,
NGO's, Students, Inhabitants*

Time: 6-12 months

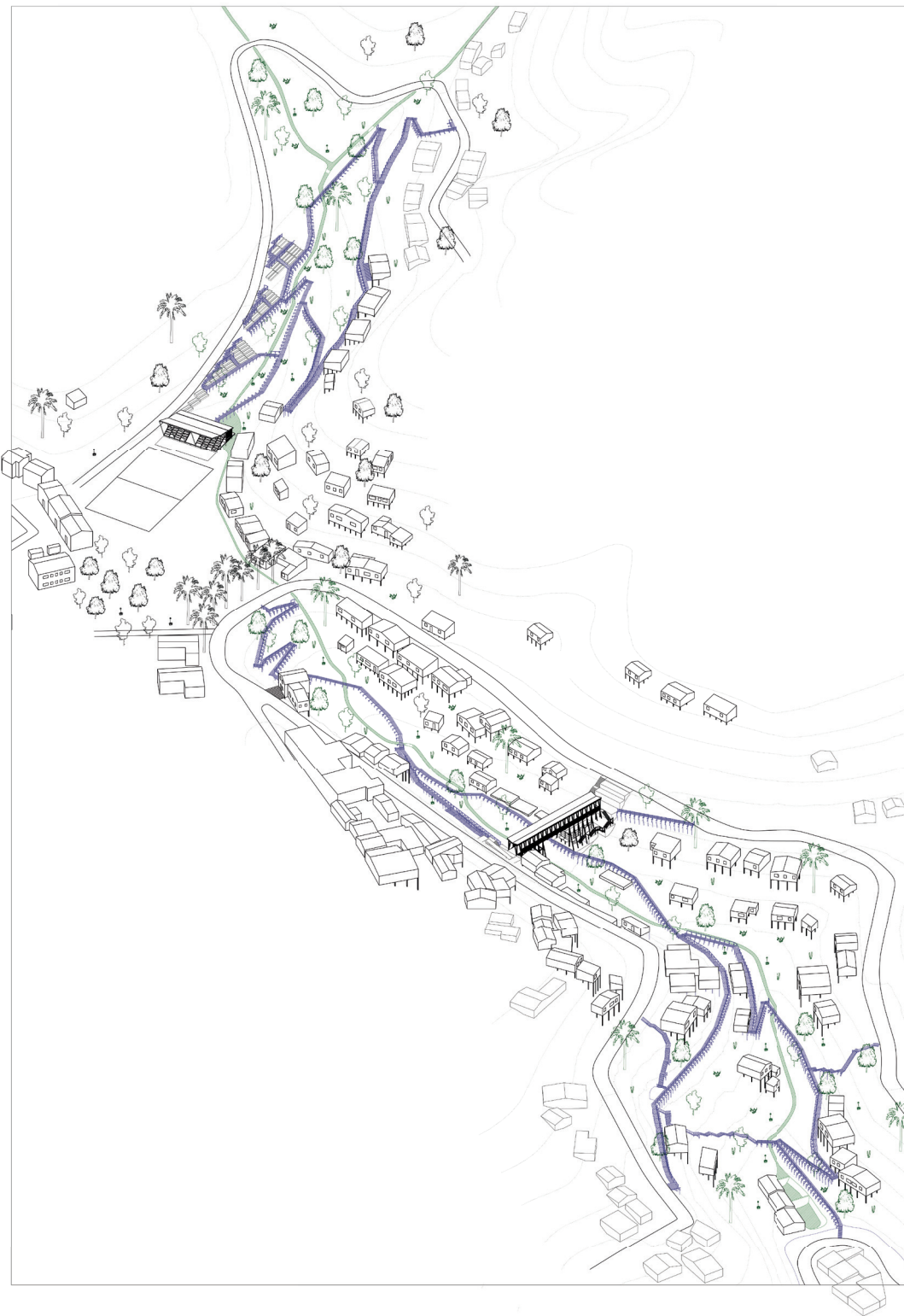
Financing: Municipality, Subdere

Planning: Architect

*Realization: Government, Students,
Inhabitants*

Management: Inhabitants

*After the construction in the upper part is done,
the workshop is moved beneath the bridge.
The construction of the pathways in the
lower part are managed from this workshop.*



Temporal Scales of Intervention

7 - Pathways (Ruins)

*Actor: Architect, Government,
NGO's, Students, Inhabitants
Time: 6-9 months*

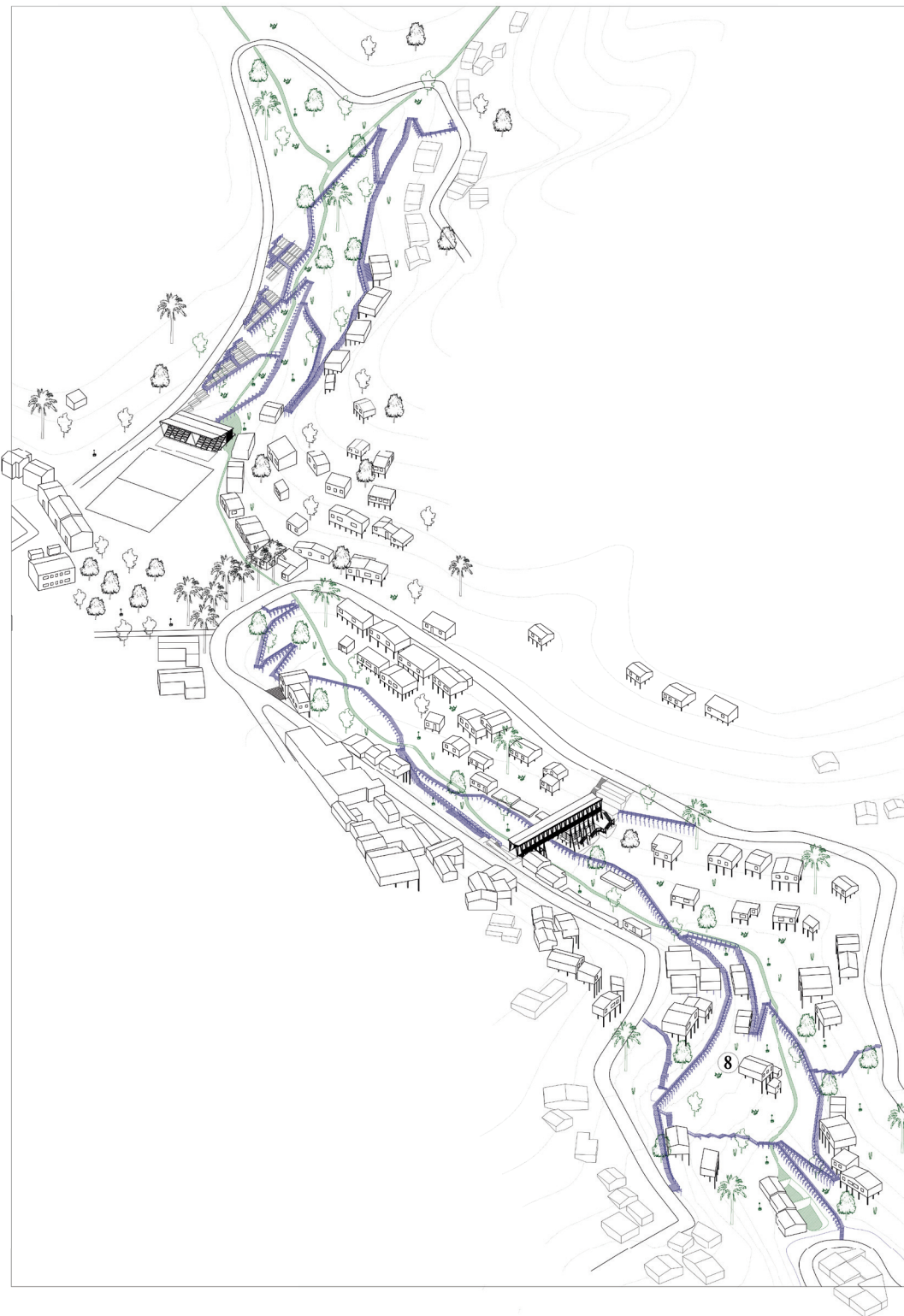
*Financing: MINVU, Municipality,
Sercotec*

Planning: Architect, Students, Inhabitants

Realization: Students, Inhabitants

Management: Sercotec, Inhabitants

*The aim is to connect and activate the
ruins. Sercotec provides funds for small
businesses along the pathway.*



Temporal Scales of Intervention

8 – Panoramic Competititon

Actor: Government, NGO's,

Inhabitants

Time: 12-36 months

Financing: MINVU, Municipality

Planning: Competition by JAB

Realization: Municipality, JAB,

Inhabitants

Management: JAB, Inhabitants

The competition seeks proposals which deal with the notions of publicity in the informal context and aims to provide a public building which attracts a wider attention from the city.



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Agriculture	Ministry of Agriculture FOSIS	Ministry of Agriculture	JAB	JAB
Business	FOSIS SERCOTEC Regional Government			
	Financing	Planning	Realization	Management

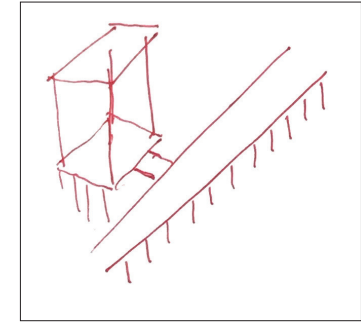
Stakeholders and Organizations

Government NGO Other

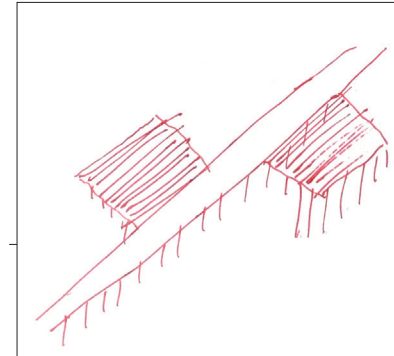
Infrastructure			Establishing the pathways in the rural area			Establishing the pathways in the lower part	Self-management
Public Spaces		The realization of the community center in la Cancha de las Palmas					Appropriation and self-management
					The Motel Competition		
					Panoramic Competition		
Environment	Revitalizing the landscape through forestation and improving the water stream			The realization of the bridge where the market and the workshop is situated			Self-management
Agriculture		Community Gardens					Appropriation and self-management
Business					SERCOTEC provides funds for small businesses to activate the ruins of the fire		Appropriation and self-management
	0-12 months		12-24 months		24-36 months		36 months-ongoing

Architectural Intervention Strategy

Predictability



Providing accessibility and structures to be appropriated:
-controlled appropriation
-restricted densification
-uncertain ownership
-uncertain continuity



Providing accessibility and platforms to be appropriated:
-predictable appropriation
-controlled densification
-uncertain ownership
-uncertain continuity

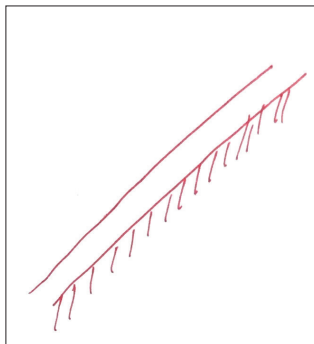
Control



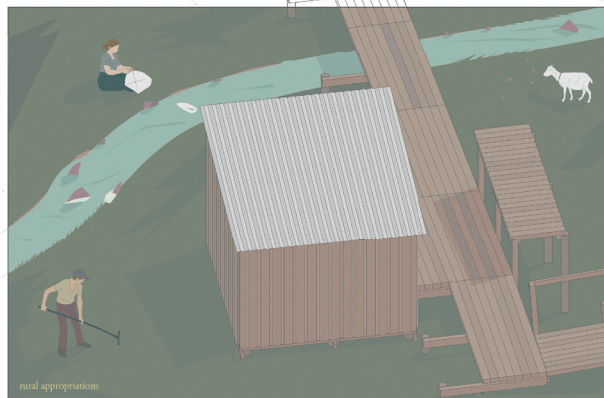
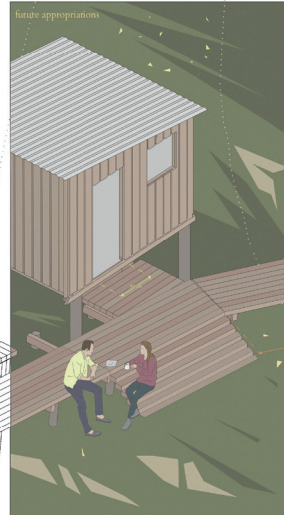
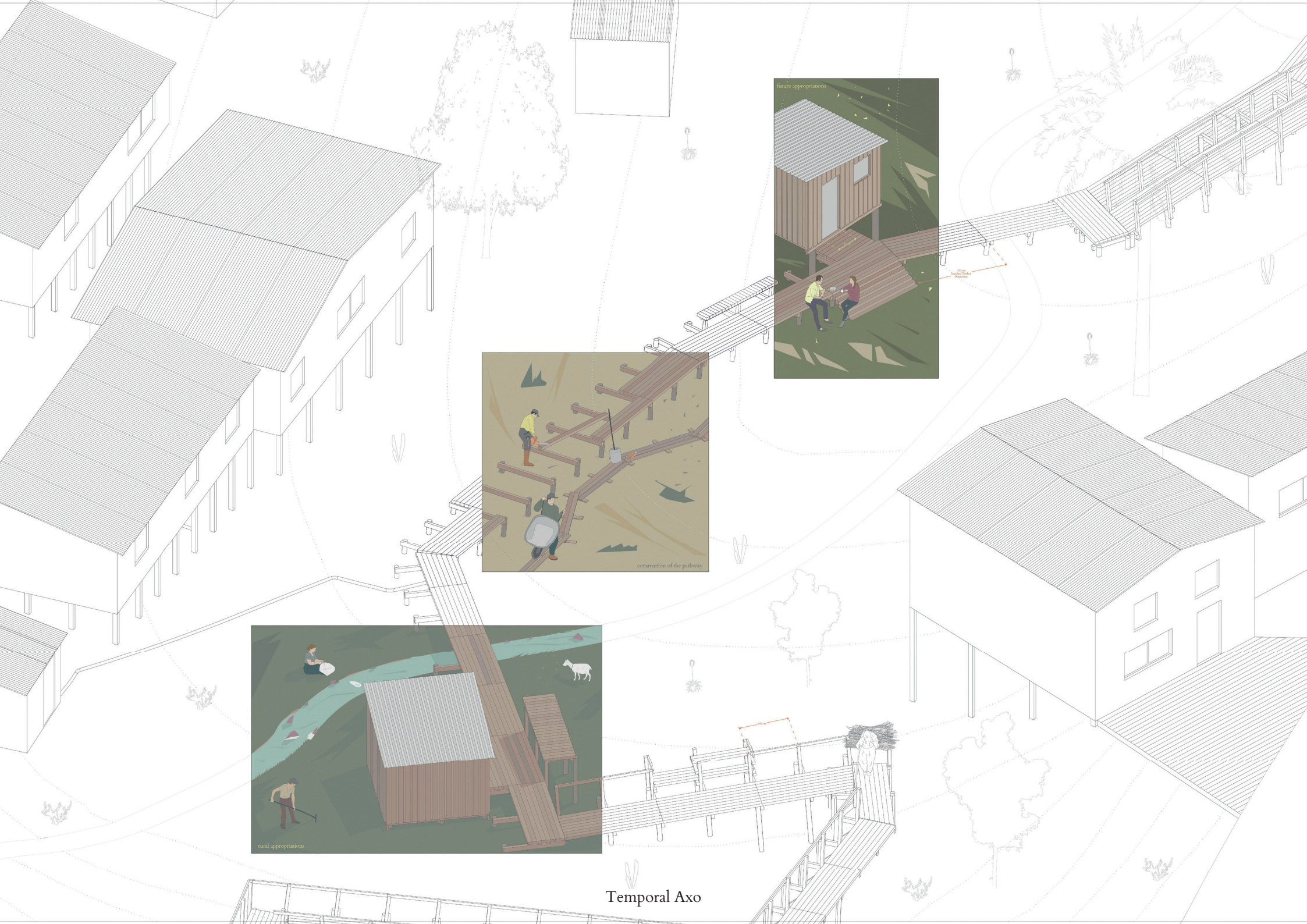
Providing accessibility, infrastructure, community gardens and revitalized landscape:
-ideal flexibility
-soft control on densification
-NGO assisted ownership
-good chances of sustainability

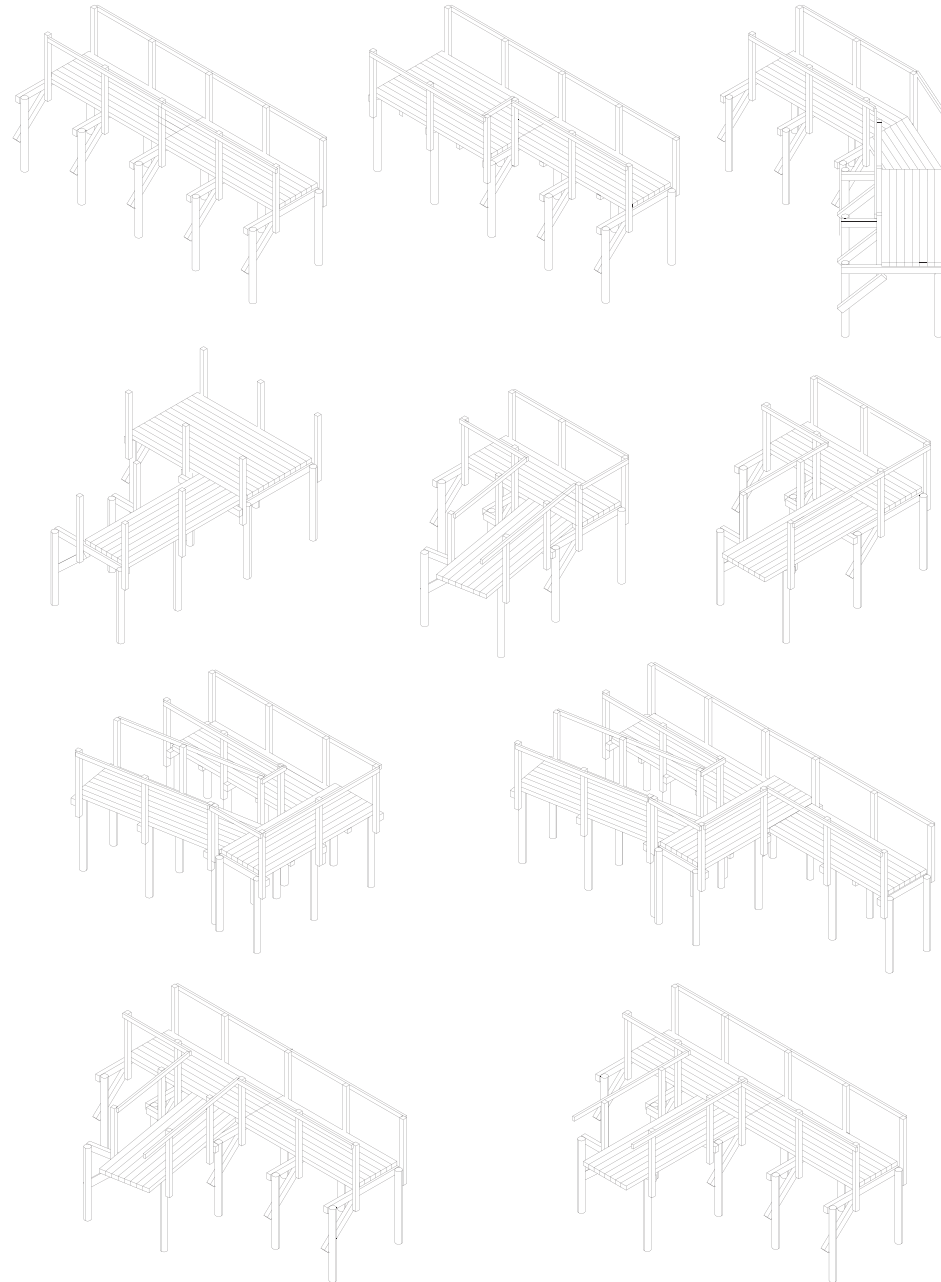
Flexibility

Freedom

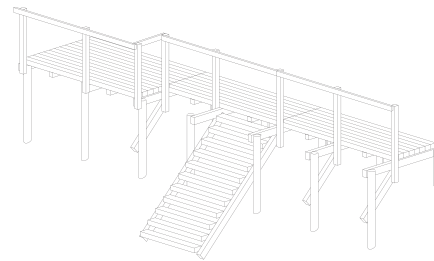
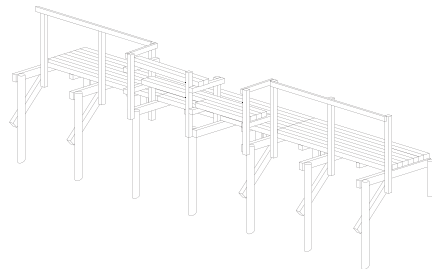
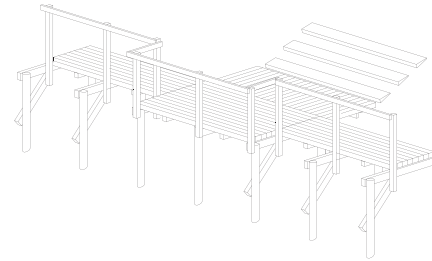
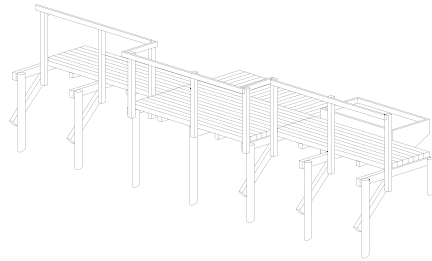
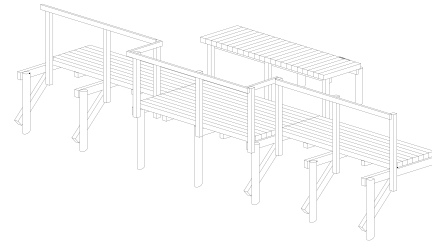
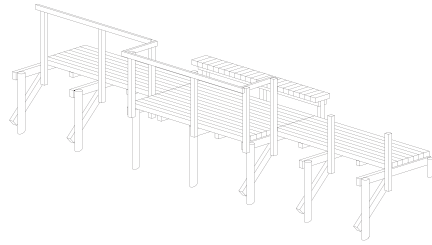


Providing only accesibility:
-unpredictable
-risk of high densification
-no ownership problem
-problems of sustainability

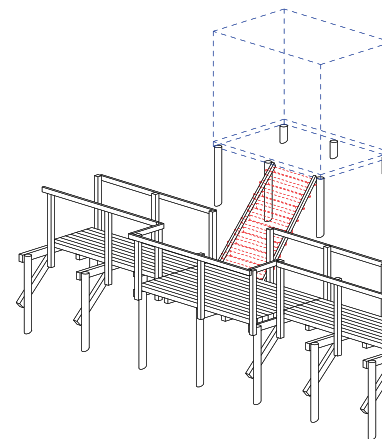
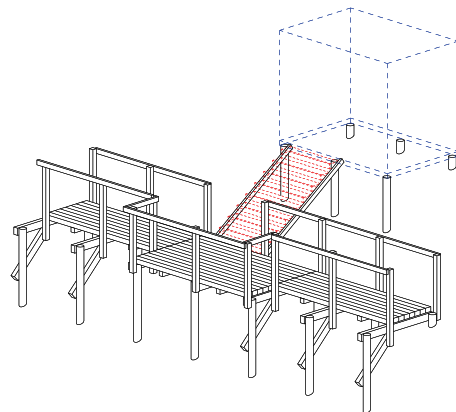
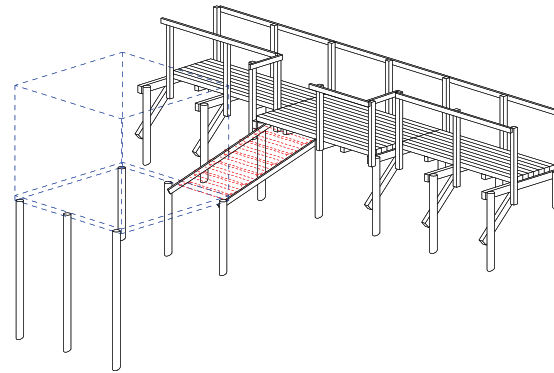
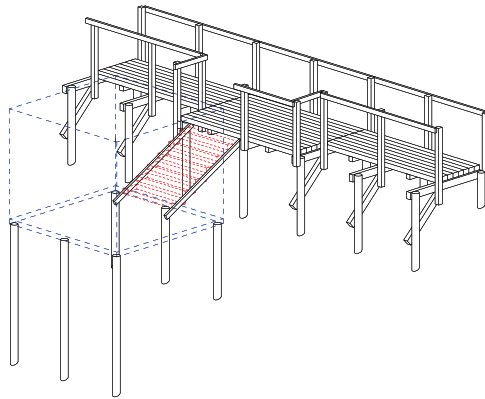
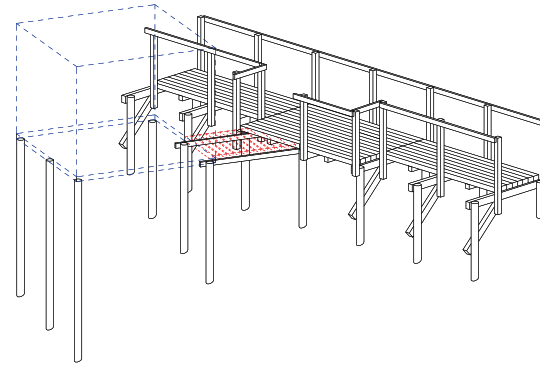
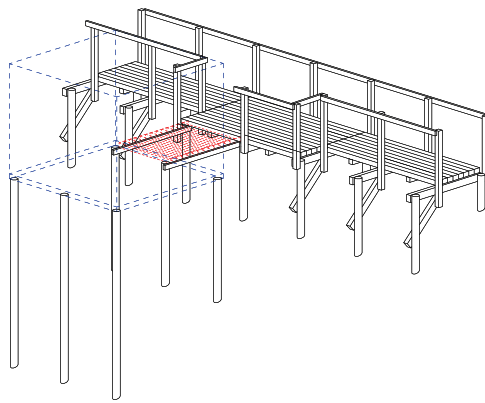




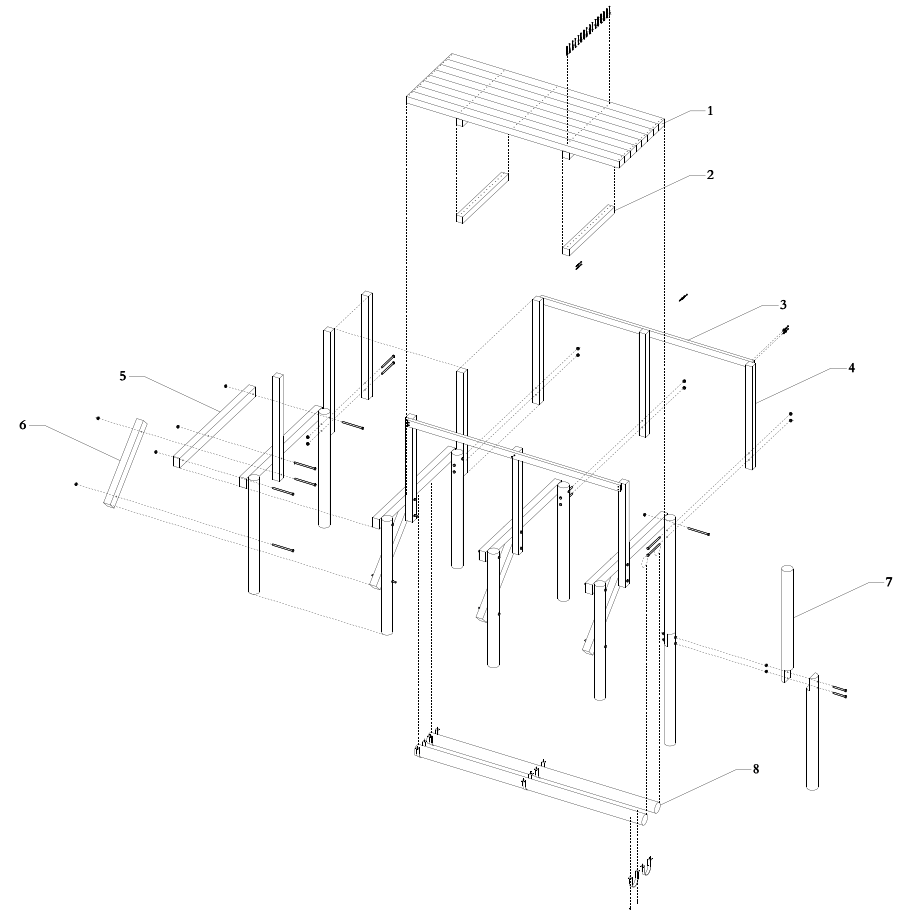
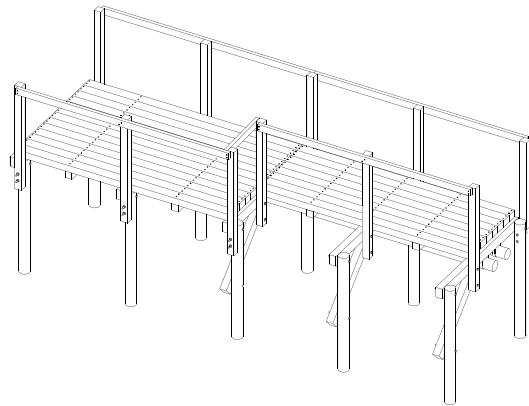
Pathway Variations



Pathway Public Appropriations



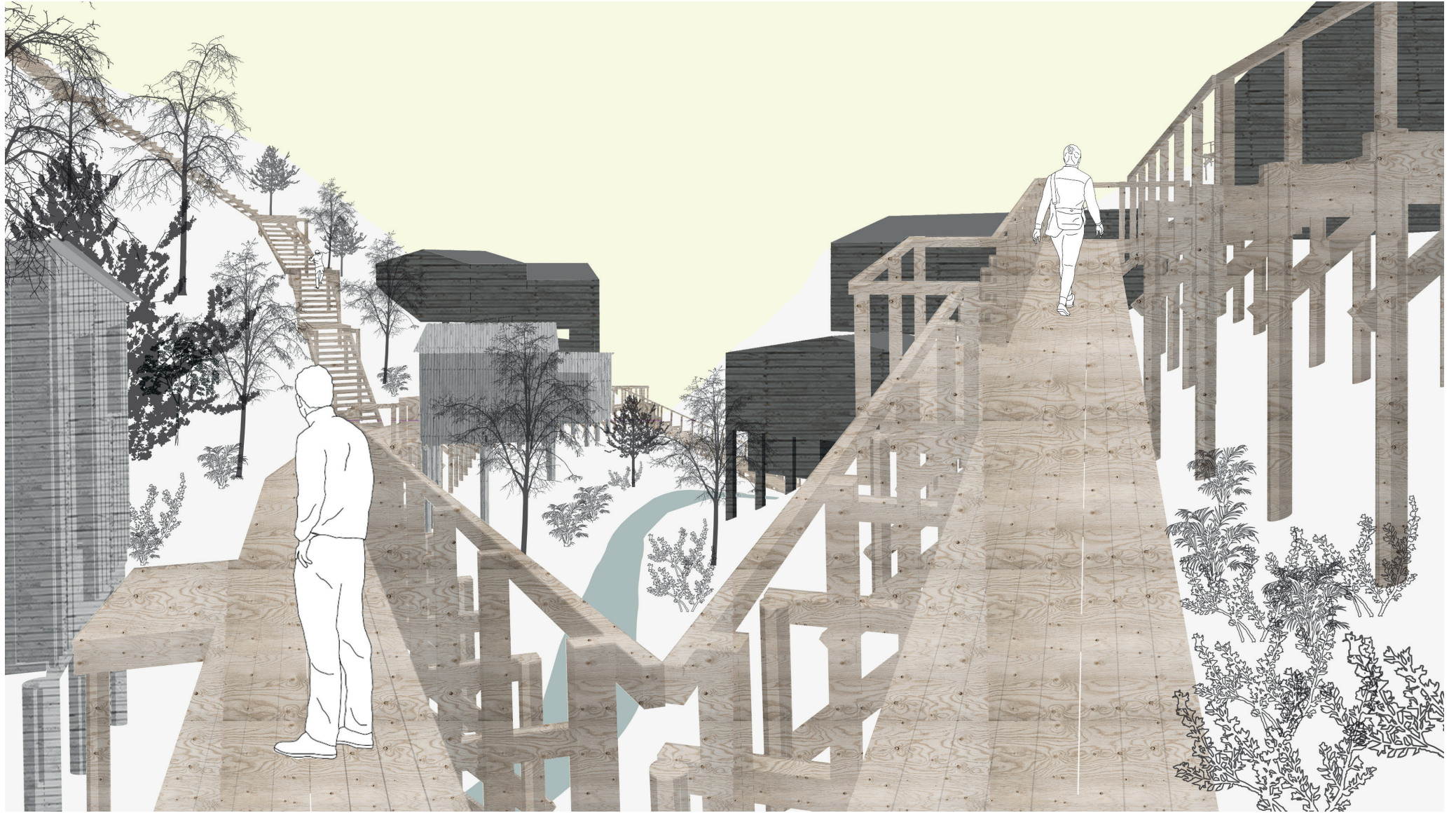
Pathway Informal Appropriations



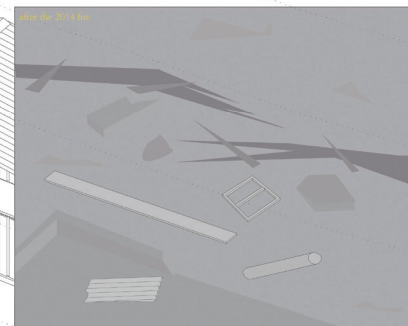
- | | | | |
|---|---|--|--|
| 1 Pathway Plank - Sawn Timber - 15x10x320cm | 2 Pathway Stabilizer- Sawn Timber - Leftover Pieces | 3 Balustrade - Sawn Timber - 10x5x320cm | 4 Balustrade Structure - Sawn Timber - 10x10x160cm |
| 5 Pathway Beam- Sawn Timber - 15x10x320cm | 6 Bracing Element - Sawn Timber - 15x10x120cm | 7 Foundation Pile - Impregnated Post - Ø15cm | 8 Water Pipes - PVC - Ø20cm |

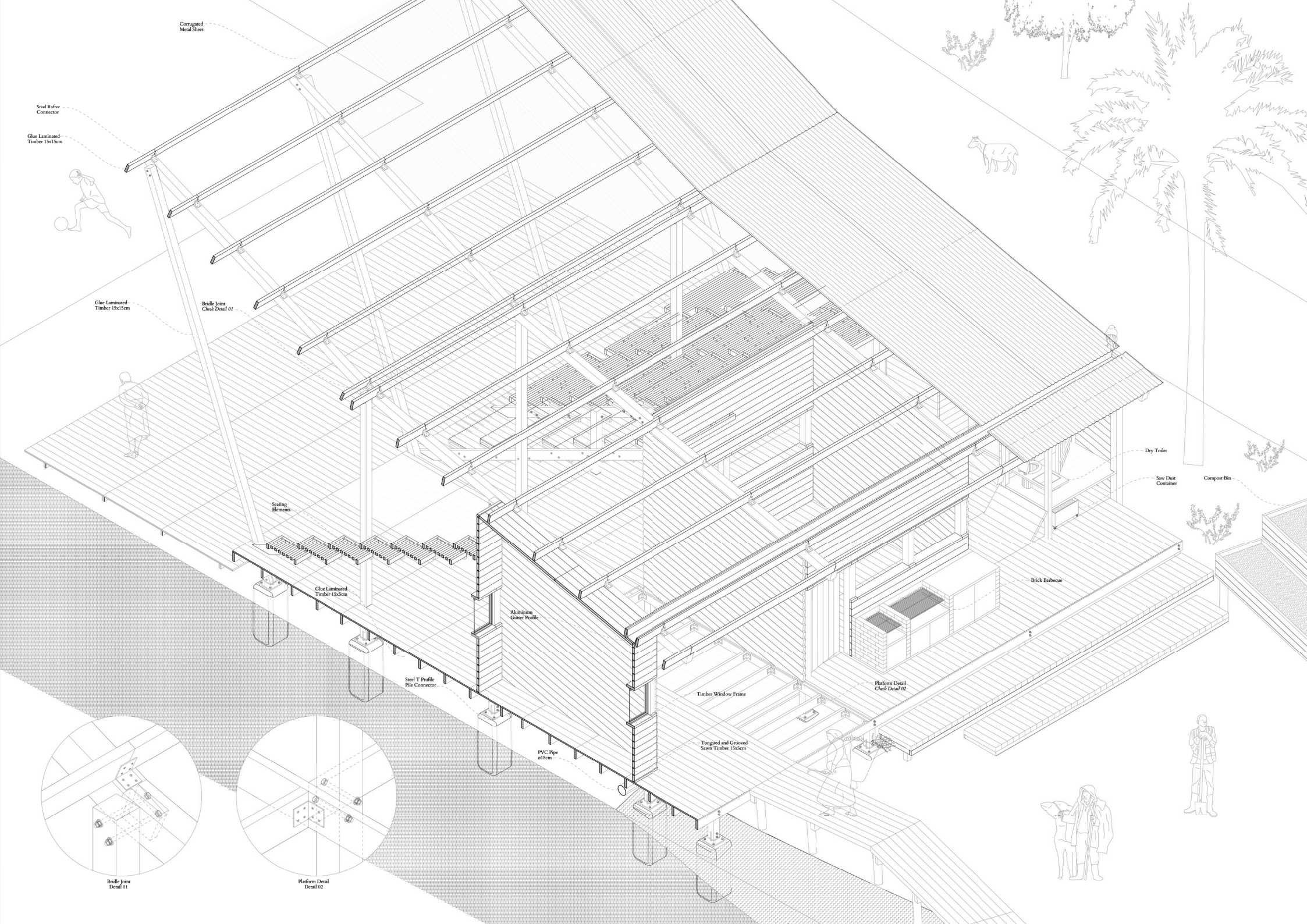


- S Concrete Sump - Mounted in the ground
- T Septic Tank - Mounted in the ground
- Dry Toilet Compostion Containers
- Black Water Pipe
- - - Underground Black Water Pipe
- Grey Water Pipe
- - - Grey Water and Treated Black Water Filtration Pipe



The Pathway





Corrugated
Metal Sheet

Steel Rafter
Connector

Glue Laminated
Timber 15x13cm

Glue Laminated
Timber 15x13cm

Bridle Joint
Check Detail 01

Seating
Elements

Glue Laminated
Timber 15x8cm

Aluminum
Gutter Profile

Steel T Profile
Pile Connector

Timber Window Frame

Tongued and Grooved
Sawn Timber 13x5cm

Platform Detail
Check Detail 02

Brick Barbecue

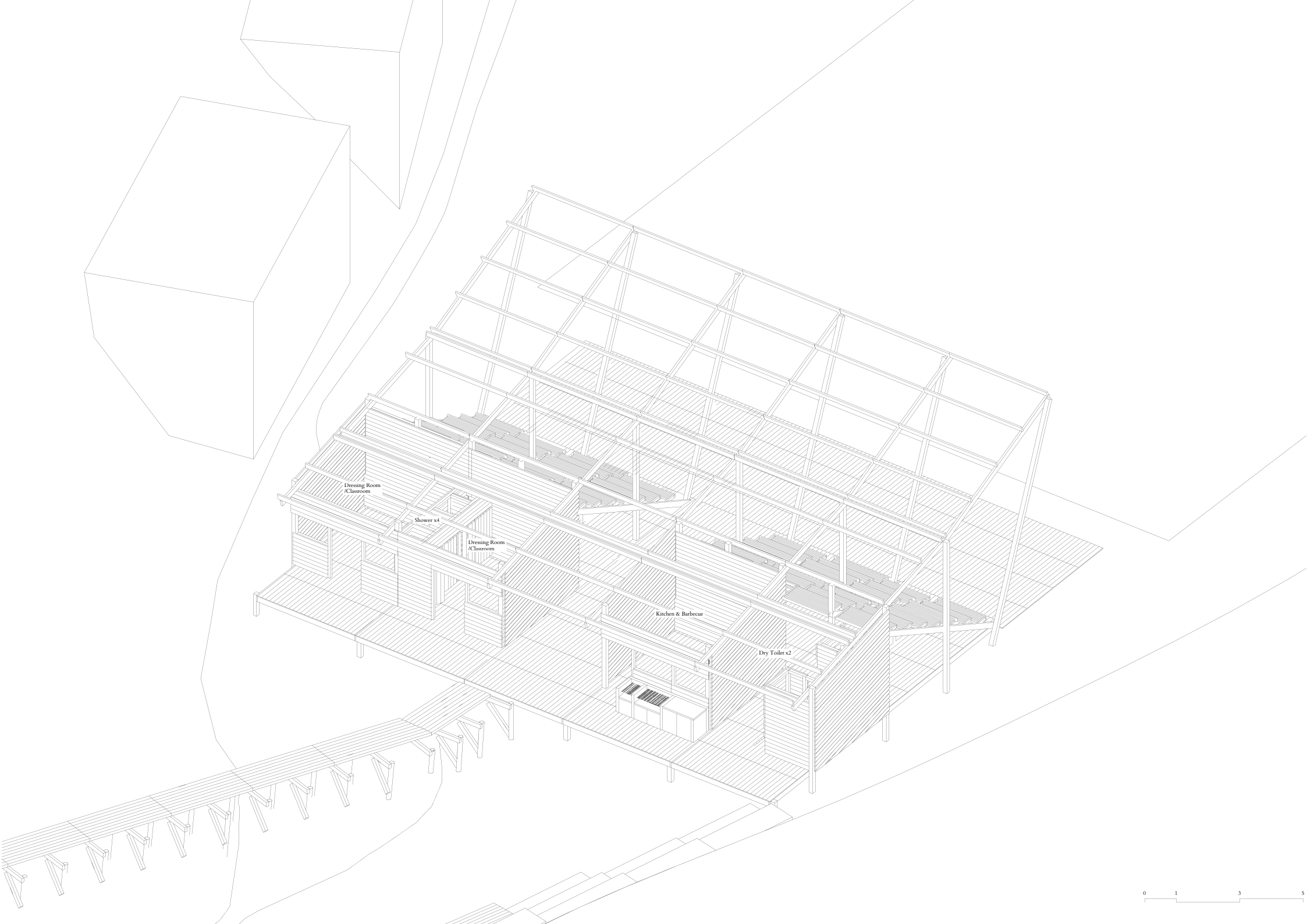
Dry Toilet

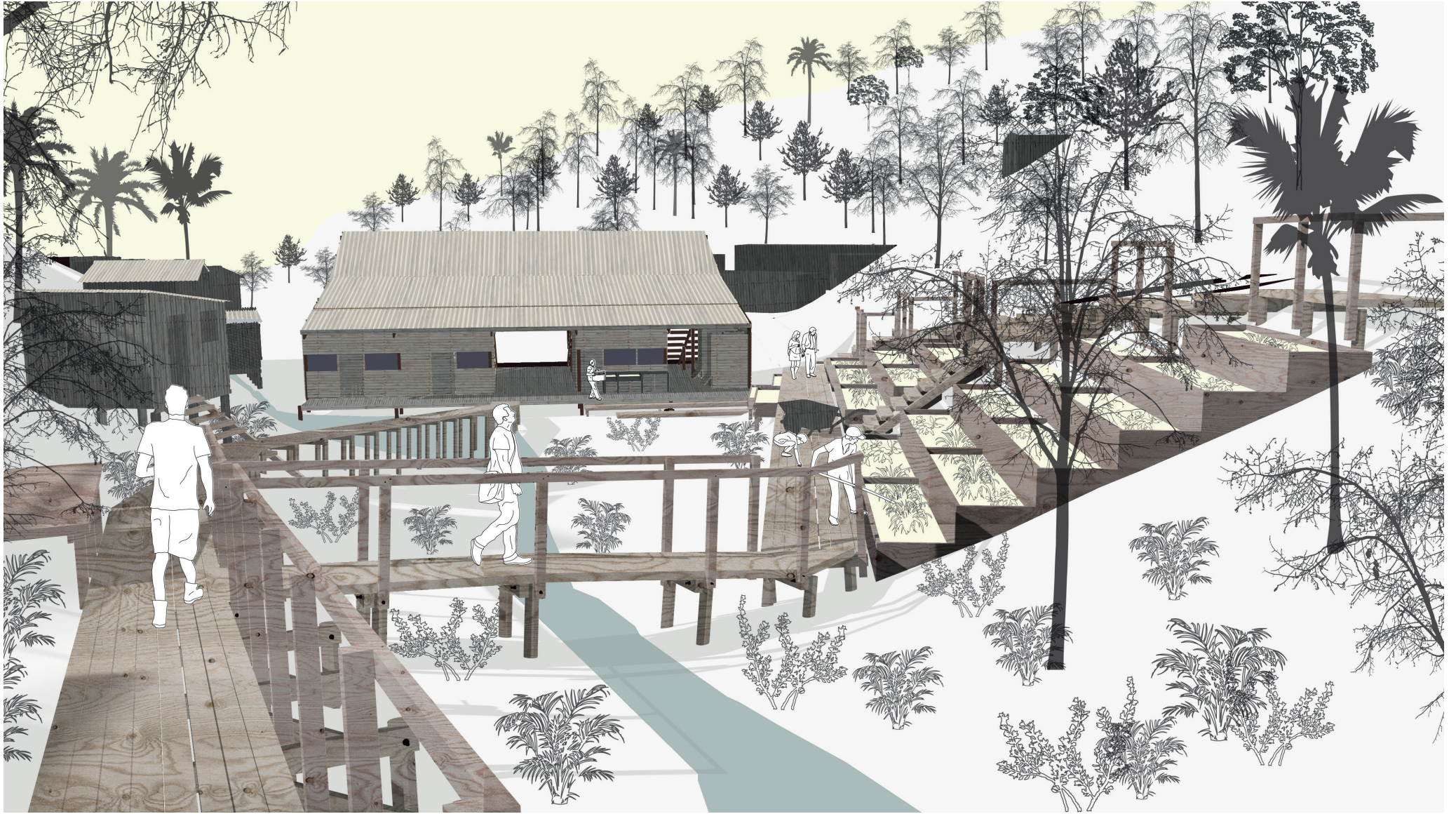
Saw Dust
Container

Compost Bin

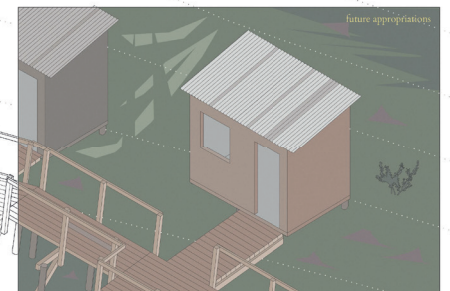
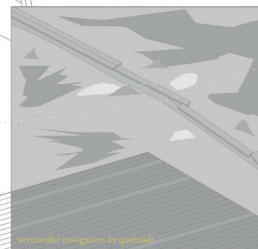
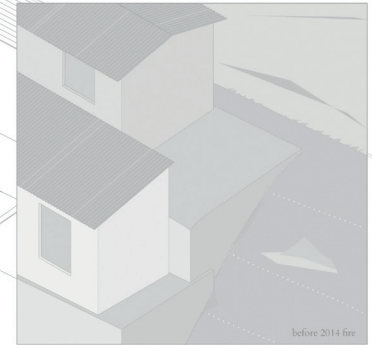
Bridle Joint
Detail 01

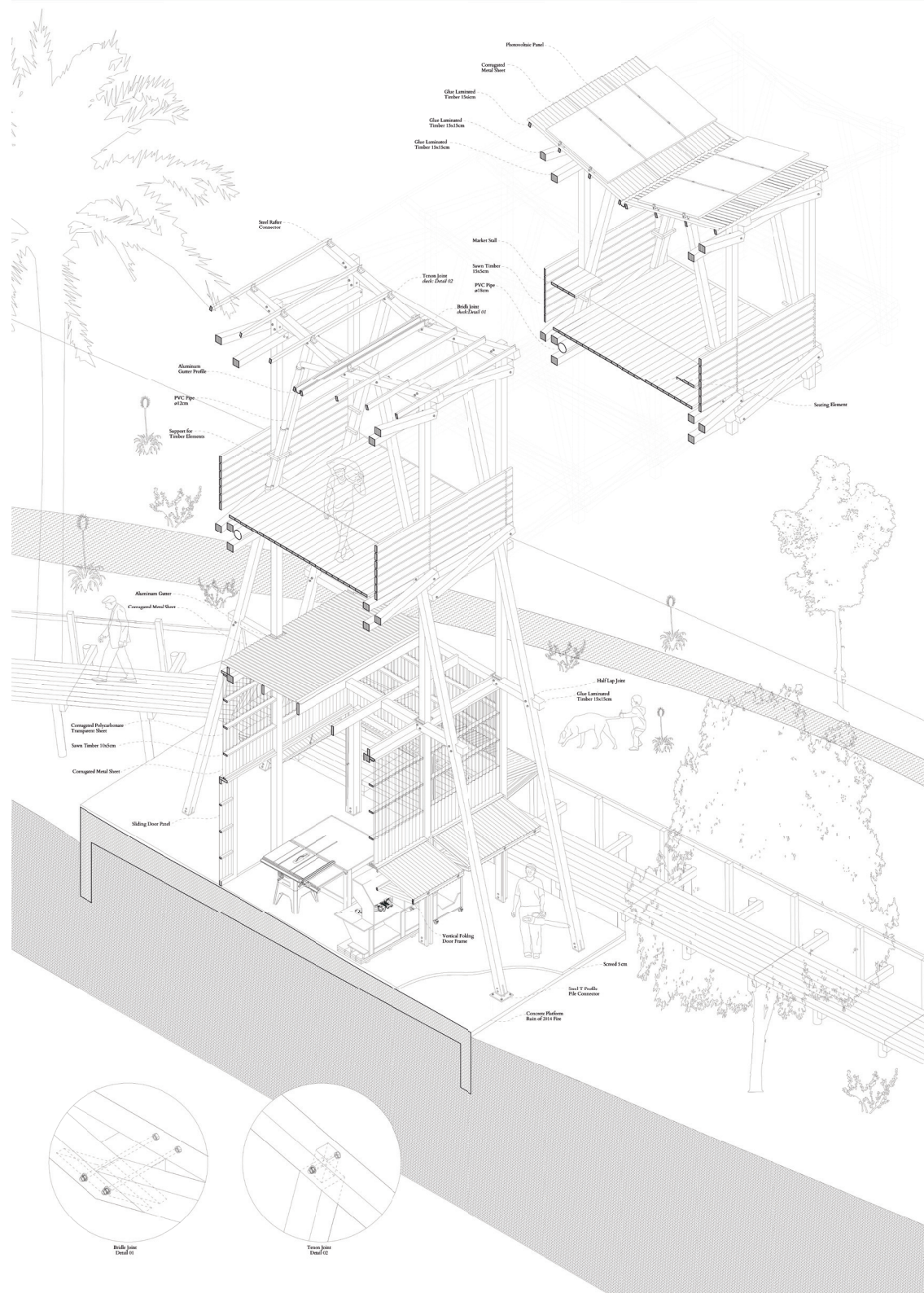
Platform Detail
Detail 02

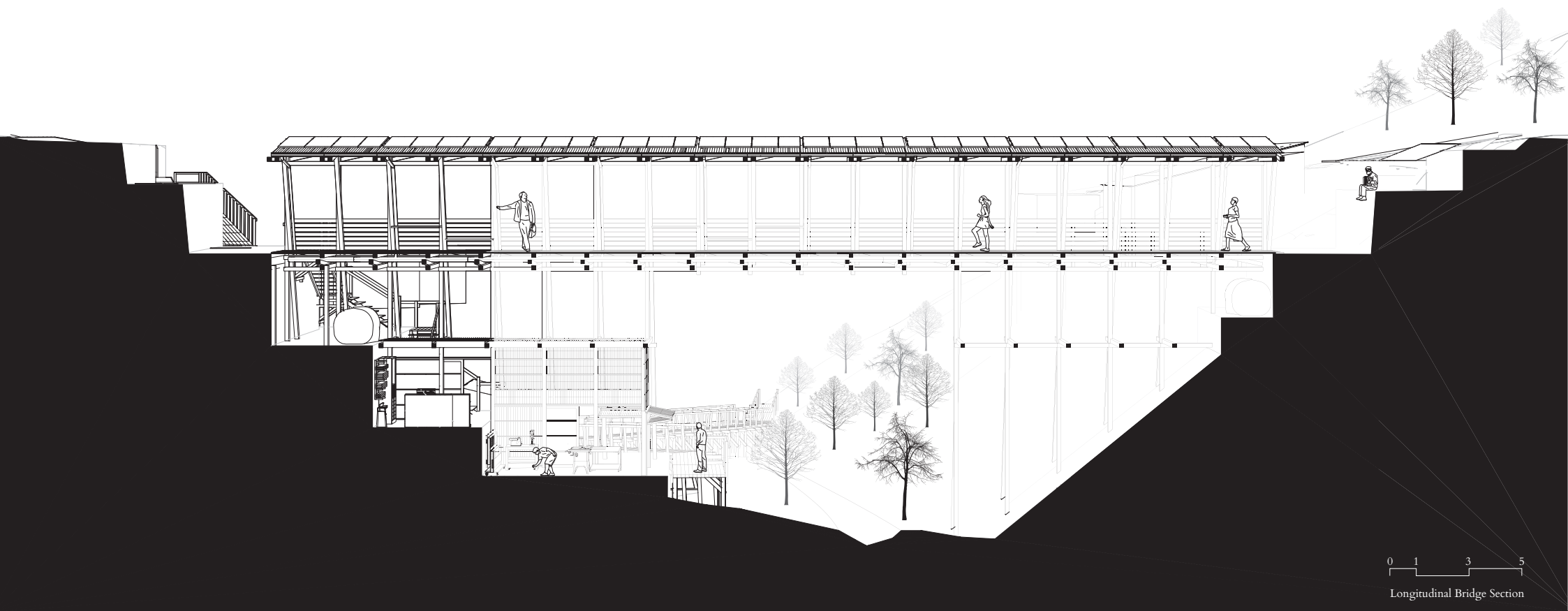




The Tribune and Community Gardens



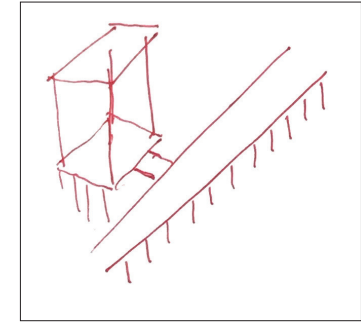




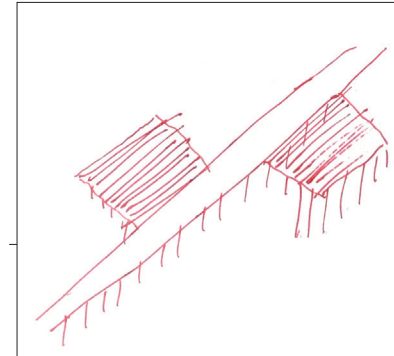


The Bridge and Ruins

Predictability



Providing accessibility and structures to be appropriated:
-controlled appropriation
-restricted densification
-uncertain ownership
-uncertain continuity



Providing accessibility and platforms to be appropriated:
-predictable appropriation
-controlled densification
-uncertain ownership
-uncertain continuity

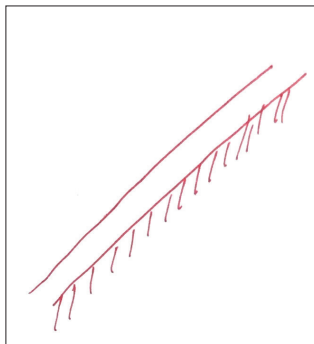
Control



Providing accessibility, infrastructure, community gardens and revitalized landscape:
-ideal flexibility
-soft control on densification
-NGO assisted ownership
-good chances of sustainability

Flexibility

Freedom



Providing only accesibility:
-unpredictable
-risk of high densification
-no ownership problem
-problems of sustainability