



DESIGN FOR LIFE

My graduation starts with a picture of myself as a child, representing my love for nature: my main incentive for anything. And this is what I believe life is all about: life itself and all the beautiful life forms with colours, smells and sounds. And even if we almost forget, we are part of this beautiful system and we need it for the provision of life essentials such as food, water and materials. However when I look around in the world that we build for ourselves, I notice a very sad contrast. We create a world in which there is hardly any place for life: a world that is even at the cost of life, by claiming space, being destructive and causing fragmentation. Imagine what would happen if our habitat would become a place where we are invited to use our senses again and to be in touch with the beauty of life. A place that is no longer at the cost of life, but actually contributes to it. I believe, we as architects can play a key-role in transforming the built environment into a living environment again, both contributing to functioning of life as well as quality of life.

VISION

Transforming the built environment into a living environment, contributing to the quality and functioning of life.

RESEARCH QUESTION

How can architecture contribute to life?

CASE-STUDY

To proof the huge potential of architecture in contributing to life and to test design principles derived from research an extreme case-study has been chosen: A pre-war apartment block in Amsterdam-West, located in the Orteliusstraat. It is an extreme case-study for its density, valued architecture and the fact that it is an existing building with a variety of inhabitants both renting as buying.

GENERIC DESIGN PRINCIPLES DERIVED FROM RESEARCH



1. RE-INVITE LIFE IN THE BUILT ENVIRONMENT

This mainly relates to the physical structure of the building, designing it for ecological quality:

- Integrating a diversity of context related habitats
- Connect the building to the ecological structure
- Create a gradual transition between habitat types



2. SYMBIOTICALLY CONNECT TO LIFE SYSTEMS

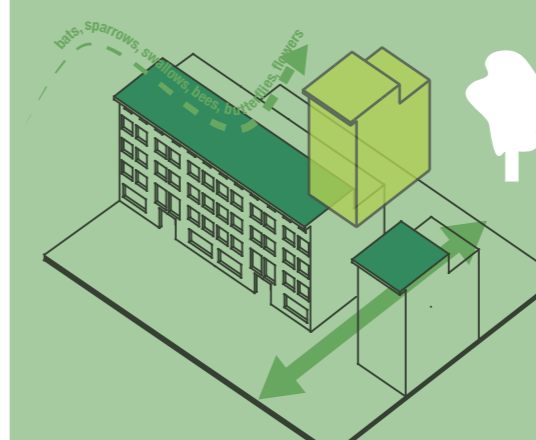
This principle is about providing life essentials by symbiotically connecting the building to the locally present a-biotic and biotic: becoming part of a local closed cycle as much as possible, preferably by connecting to the integrated systems of the first principle.



3. INVITE PEOPLE TO EXPERIENCE THE VALUE OF LIFE

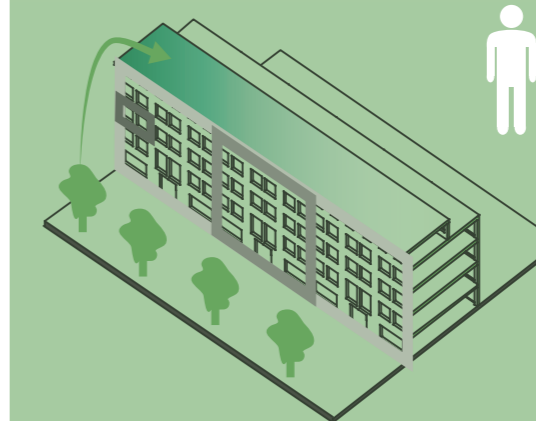
This principle is all about making people experience a sensory connectedness to life by architecture and therefore creating a happier environment. At the same time, this creates awareness of the importance of life, which could affect human action in a positive way.

CONCLUSIONS DERIVED FROM CASE-STUDY ANALYSIS



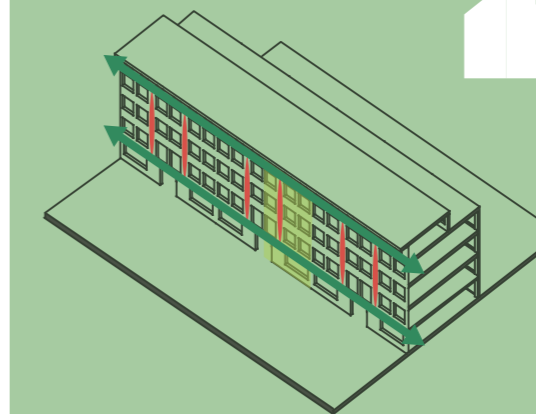
ECOLOGICAL POTENTIAL

- Opening up the closed building block for species to enter, therefore softening the urban matrix and improving ecological connectivity
- Integrating habitat types for bees, butterflies, swallows, sparrows, bats and specific endangered rock plants



SOCIAL POTENTIAL

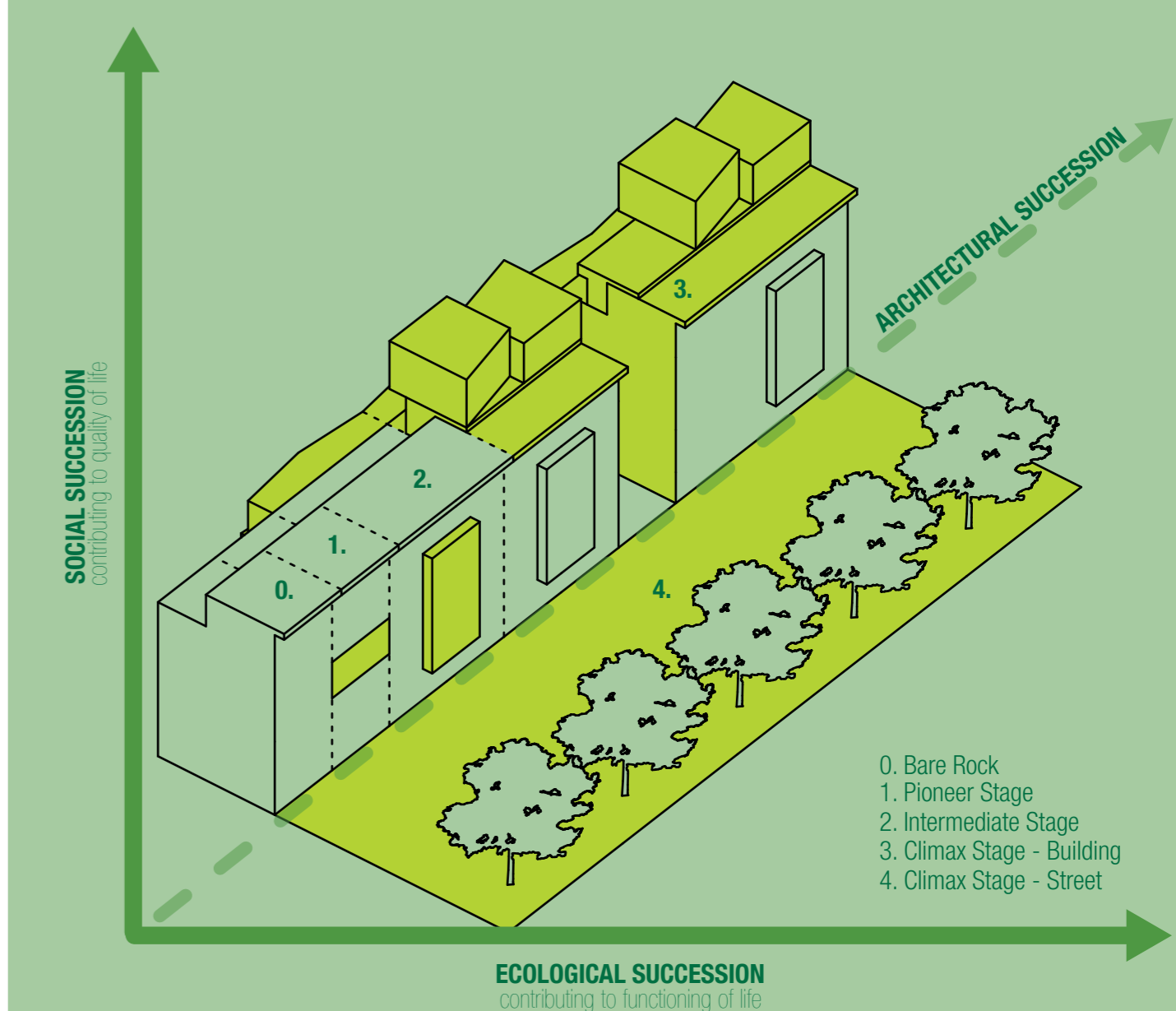
- Create green in the building block of high quality
- Improve the technical state of the building for comfort
- Approach interventions on the relevant level the variety of inhabitants act on: one household, Association of Owners and the complete building block



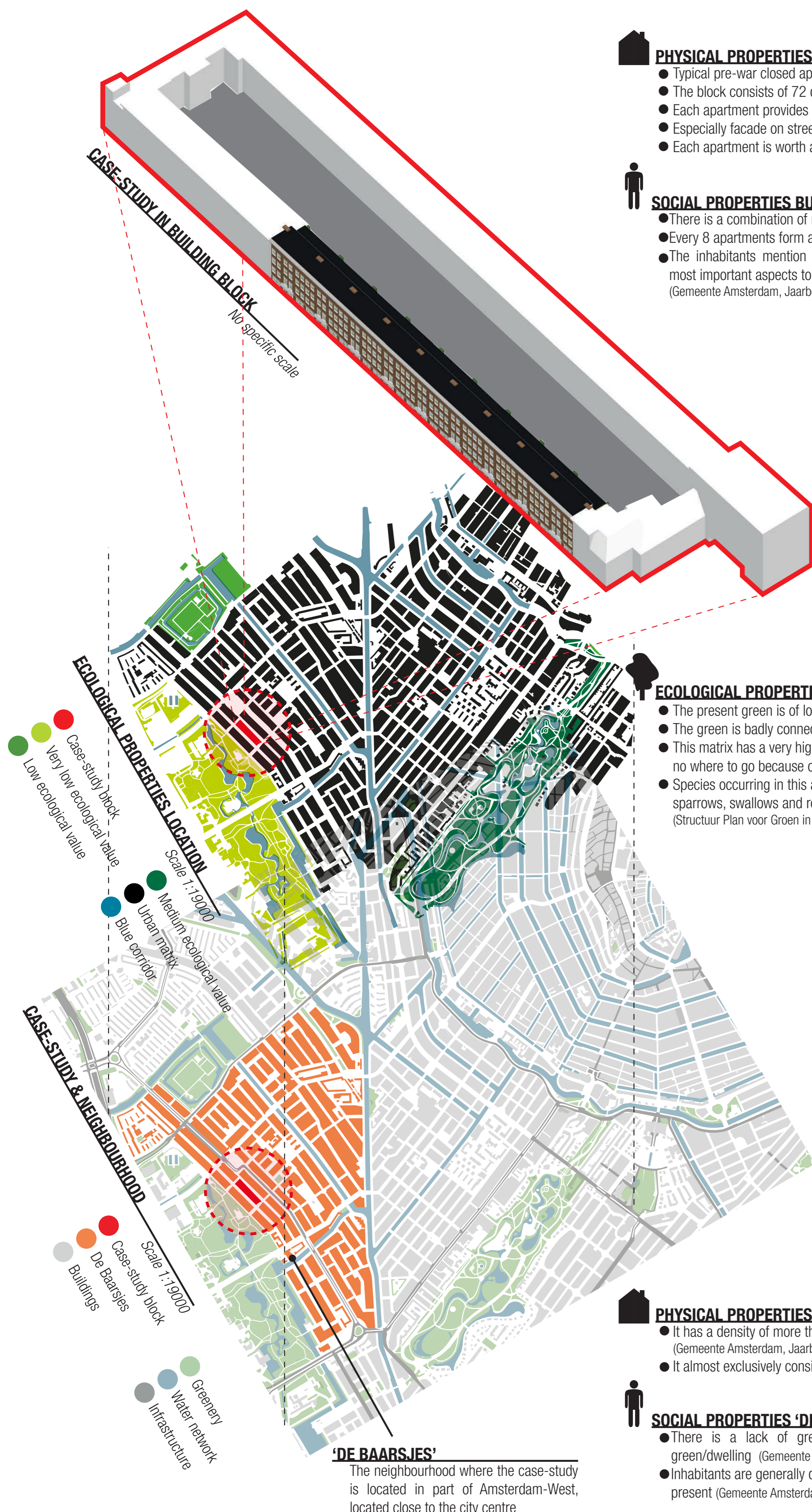
ARCHITECTURAL POTENTIAL

- The facade on the street has strong architectural characteristics which can be intensified further
- Acoustic and thermal aspects should be improved
- The floorplan improved by creating spatial experience
- Story dwellings lack outdoor area
- Huge area on the roof without use
- Beautiful large glass doors on the garden side

CONTEXT SPECIFIC ARCHITECTURAL DESIGN STRATEGY



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PHYSICAL PROPERTIES BUILDING

- Typical pre-war closed apartment block originated from 1935
- The block consists of 72 dwellings
- Each apartment provides about 50m² of living space
- Especially facade on street side is of architectural value
- Each apartment is worth about 150.000-200.000



SOCIAL PROPERTIES BUILDING

- There is a combination of rent and sale
- Every 8 apartments form an Association of Owners
- The inhabitants mention building improvements as one of the most important aspects to change in Amsterdam-West (Gemeente Amsterdam, Jaarboek 2008)

ECOLOGICAL PROPERTIES 'DE BAARSJES'

- The present green is of low ecological value and intensively used
- The green is badly connected and separated by a dense urban matrix
- This matrix has a very high mortality rate: species that do enter have no where to go because of the closed building block typology
- Species occurring in this area are mainly urban species: bats, sparrows, swallows and rock plants (Structuur Plan voor Groen in West, 2012)

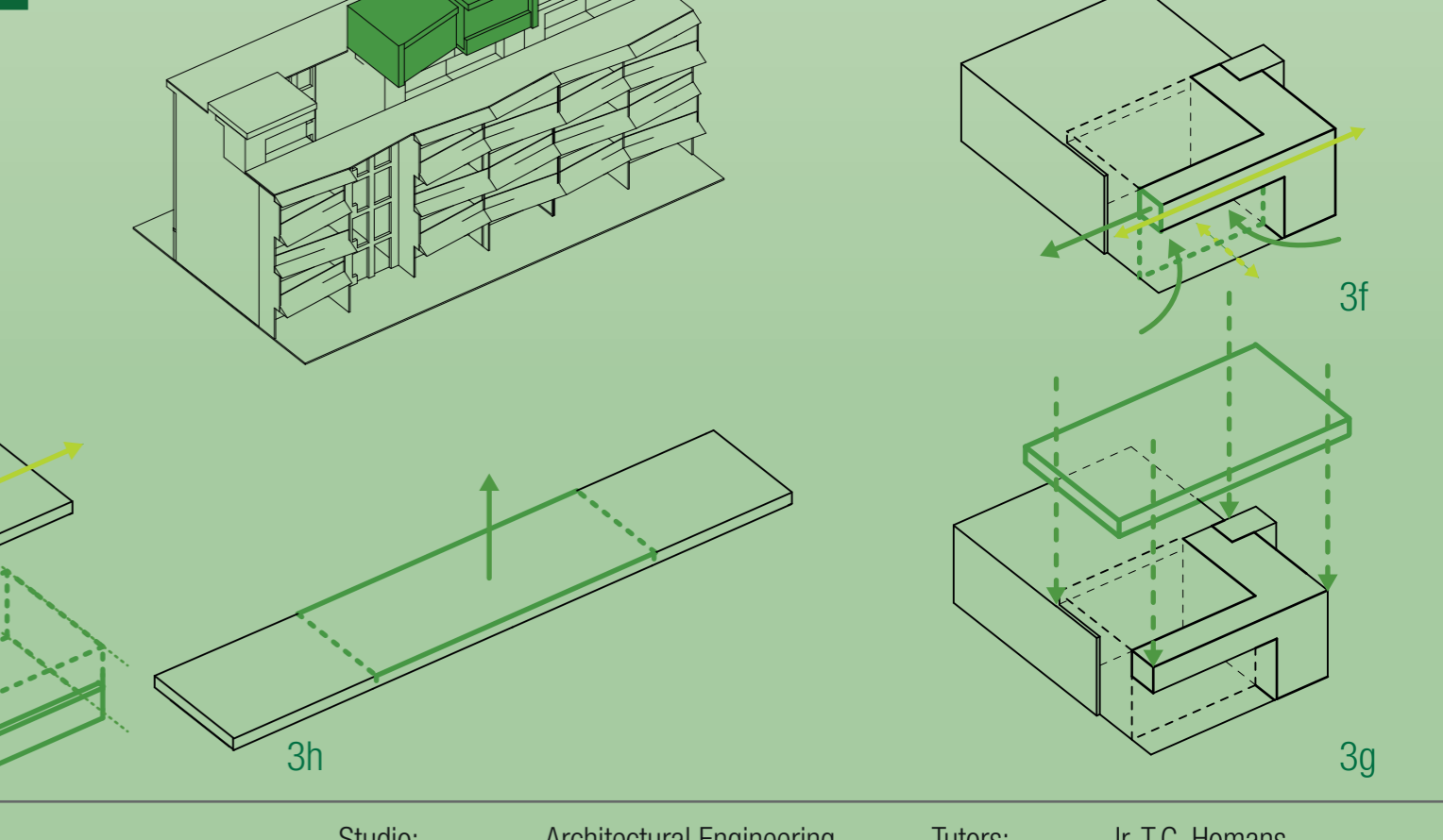
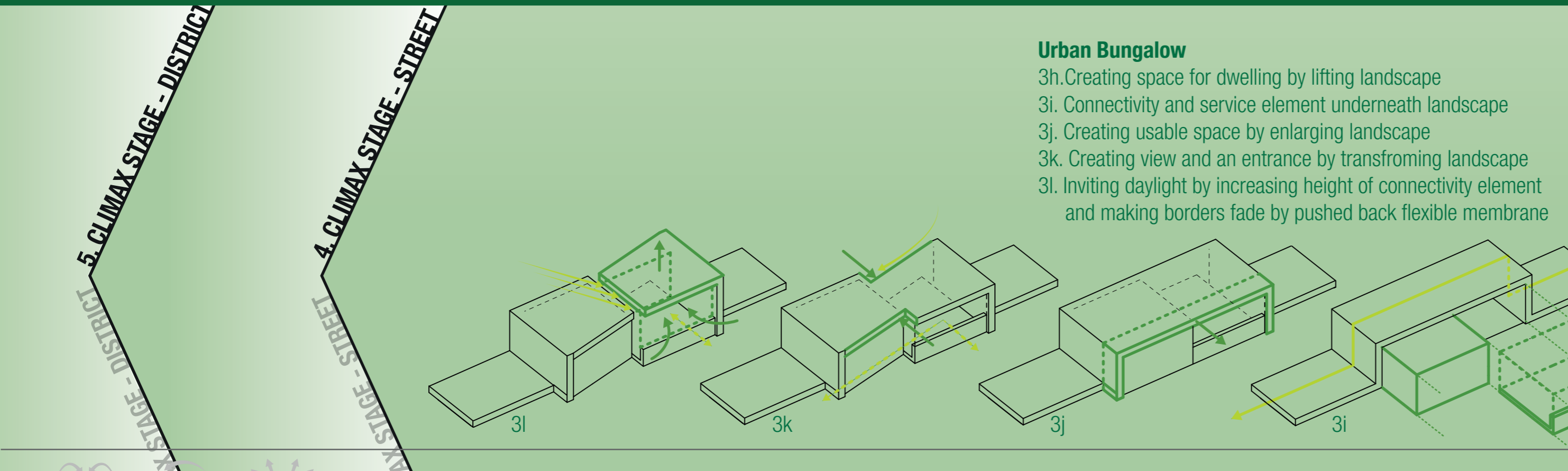
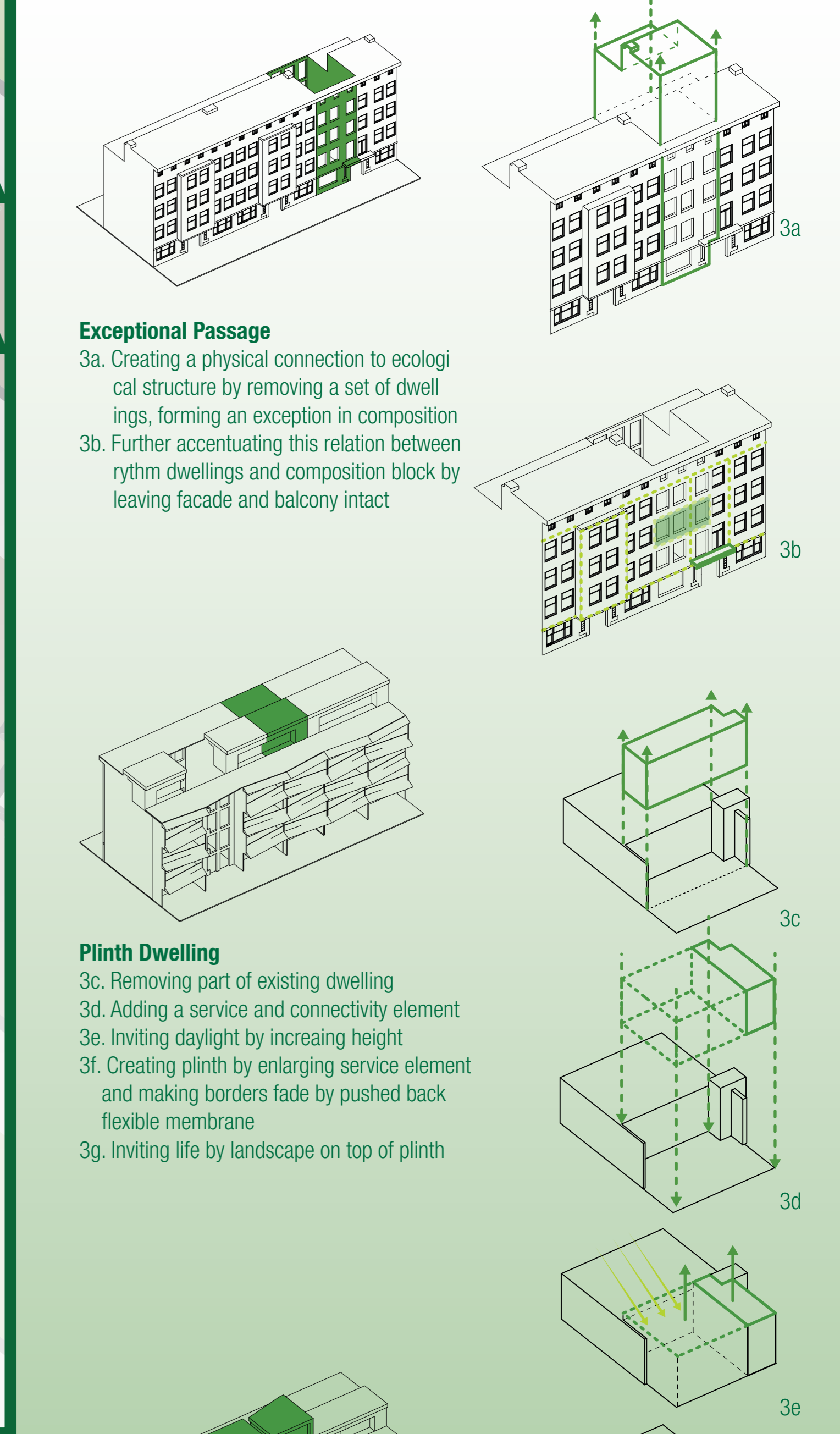
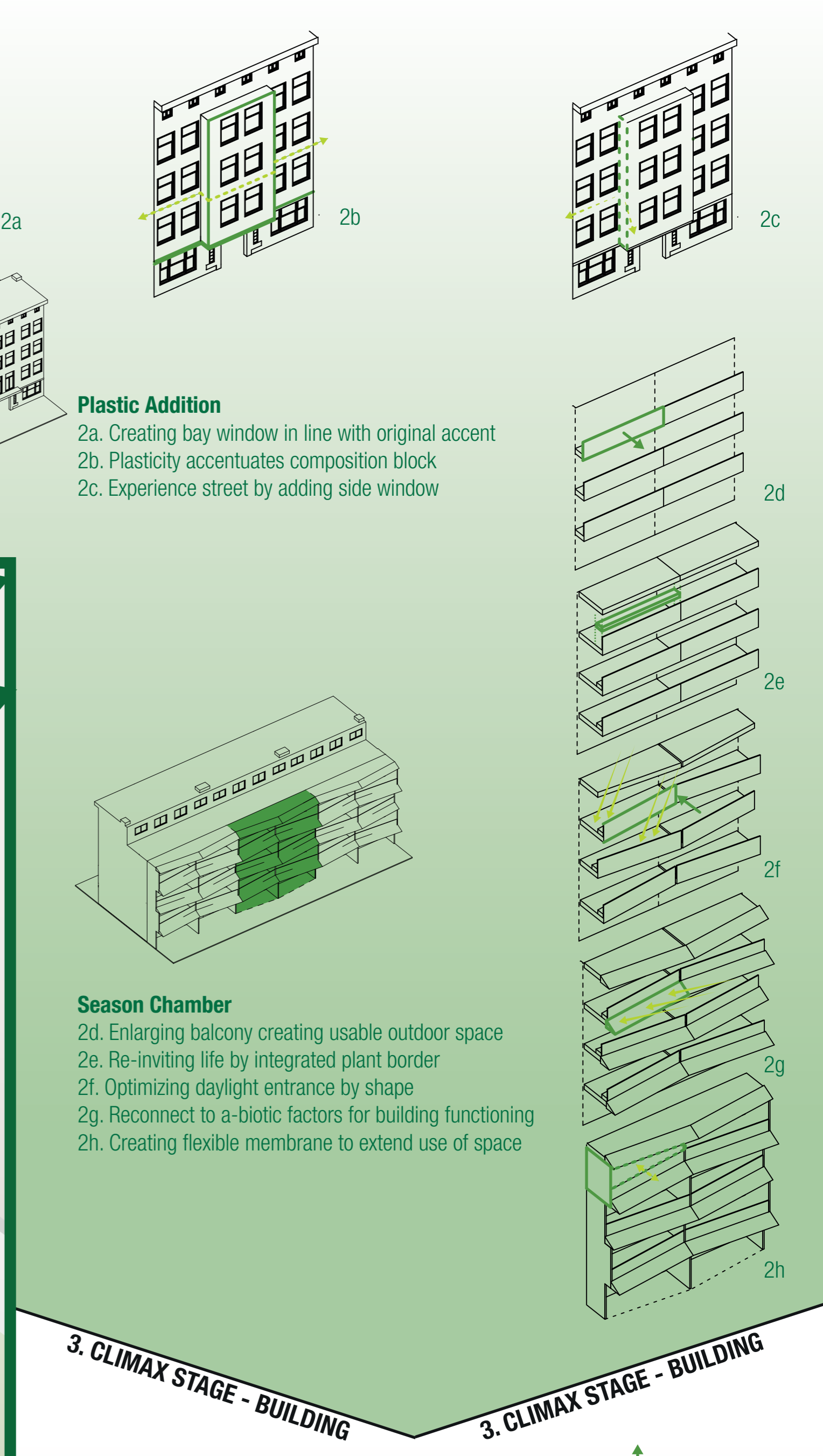
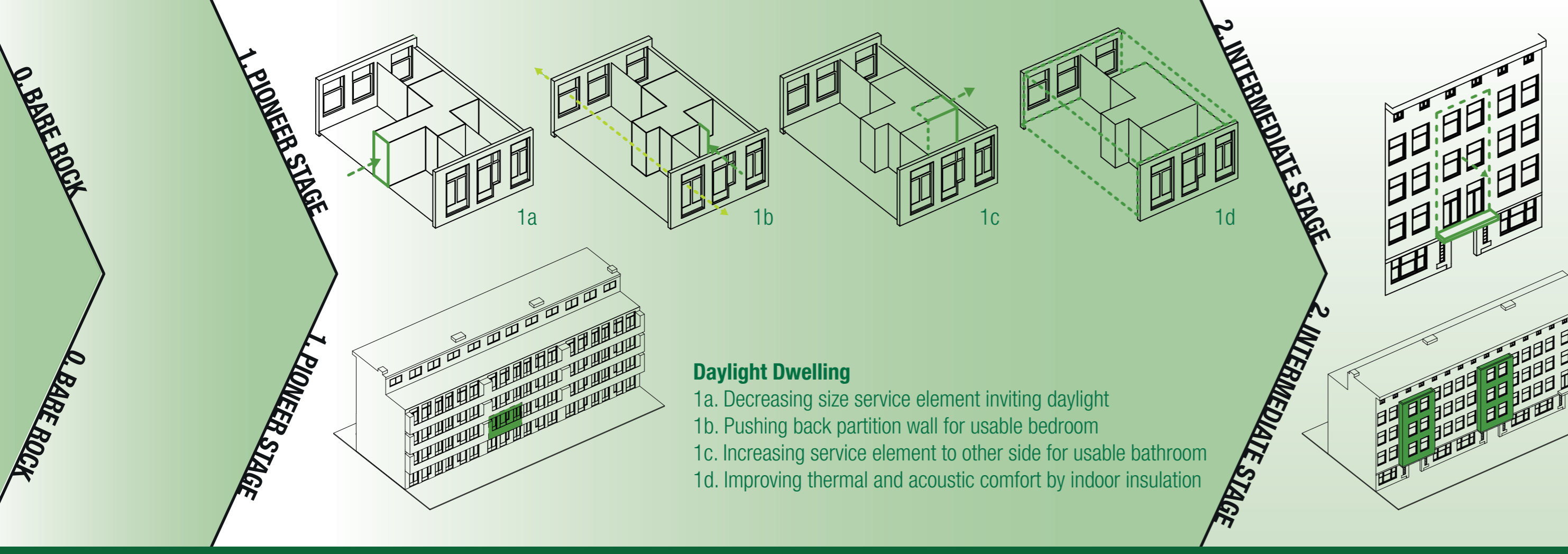
PHYSICAL PROPERTIES 'DE BAARSJES'

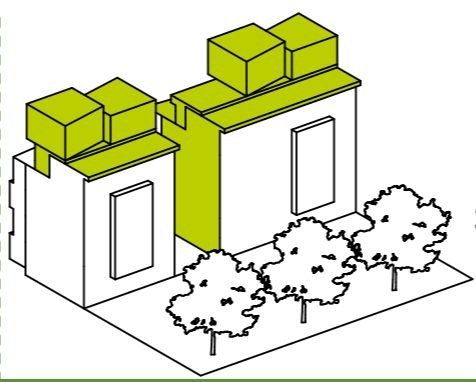
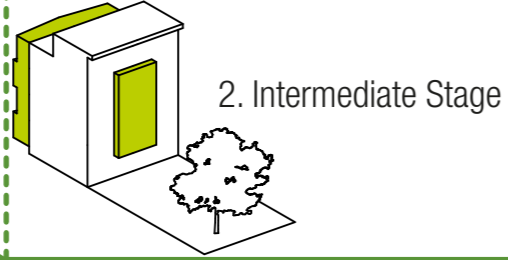
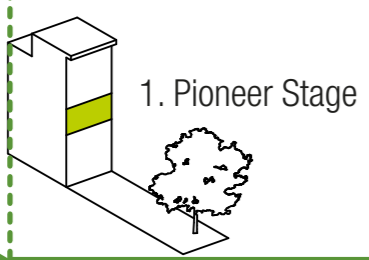
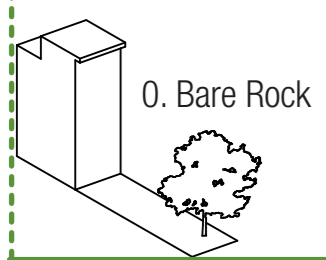
- It has a density of more than 6.000 dwellings/m² (Gemeente Amsterdam, Jaarboek 2012)
- It almost exclusively consists of pre-war closed building blocks



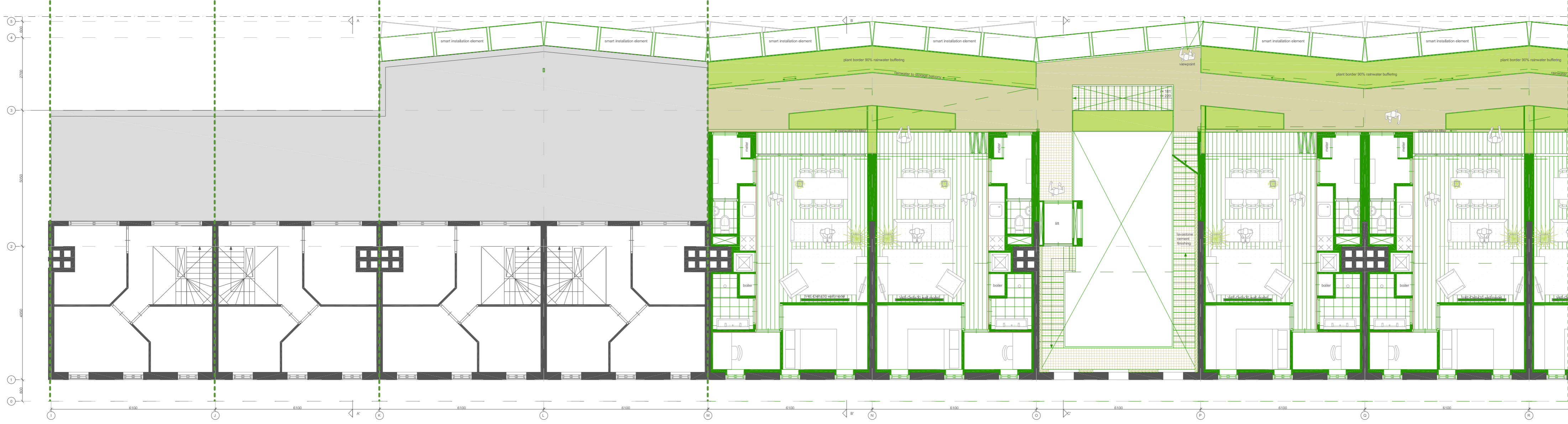
SOCIAL PROPERTIES 'DE BAARSJES'

- There is a lack of green in the area: only 1,24m² public green/dwelling (Gemeente Amsterdam, Jaarboek 2008)
- Inhabitants are generally dissatisfied about the green that is present (Gemeente Amsterdam, Jaarboek 2008)

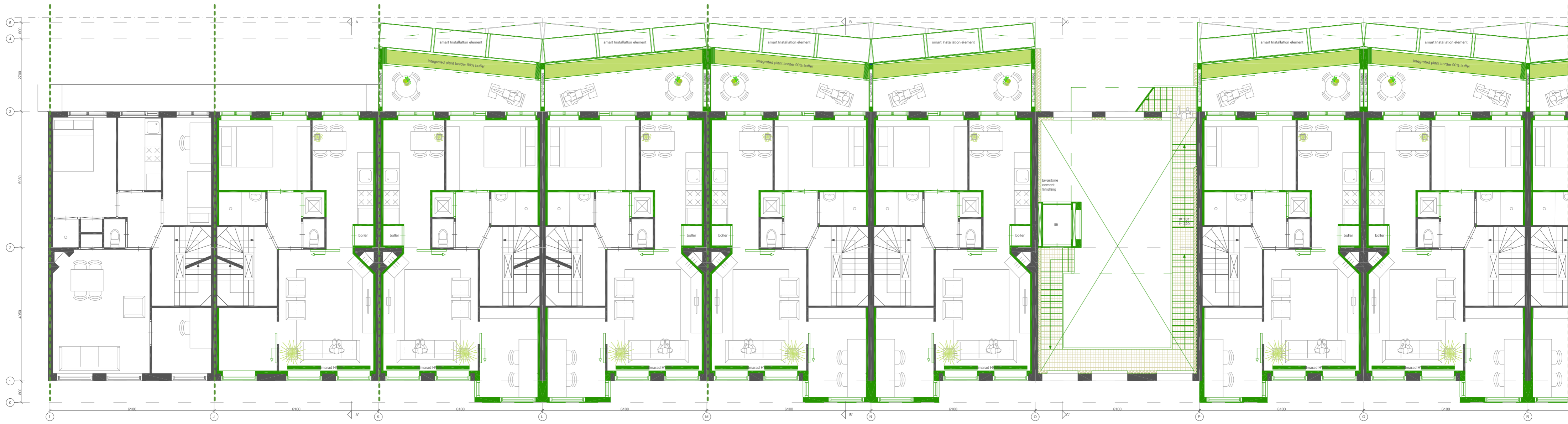




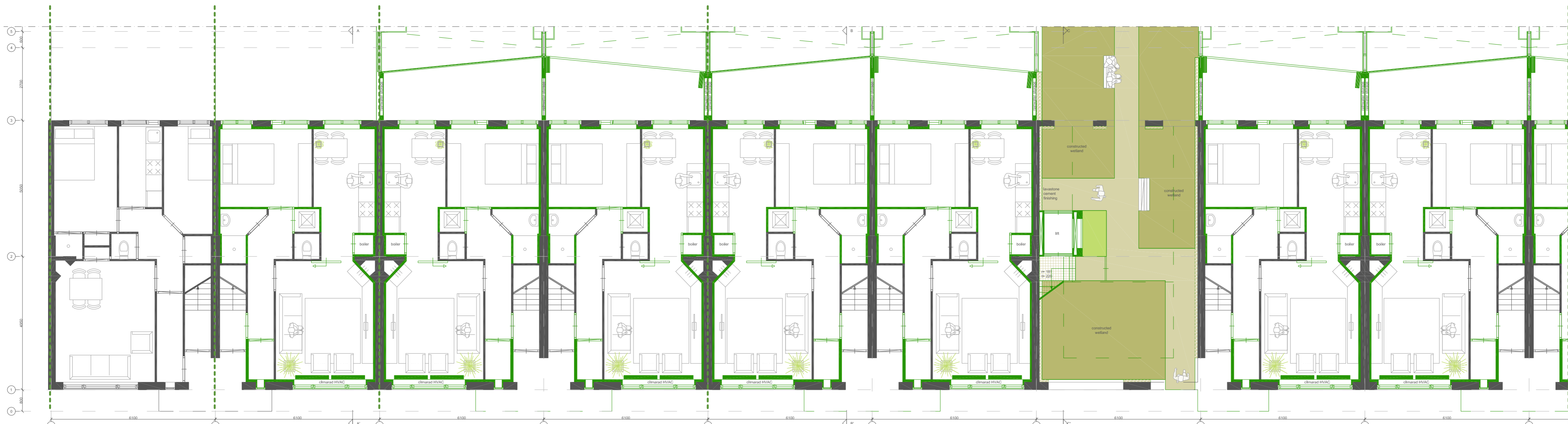
6TH FLOOR
scale 1:100



5TH FLOOR
scale 1:100

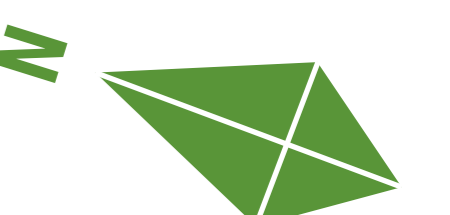


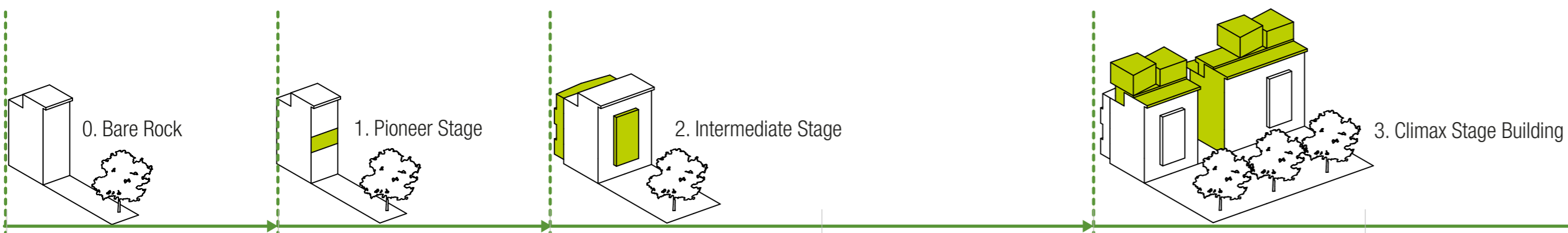
4TH FLOOR (i.e. 2nd & 3rd floor)
scale 1:100



GROUND FLOOR
scale 1:100

■ = new situation
■ = existing situation





ELEVATION WEST
scale 1:100



SECTION AA' - pioneer stage
scale 1:50 (downsized 0,5)

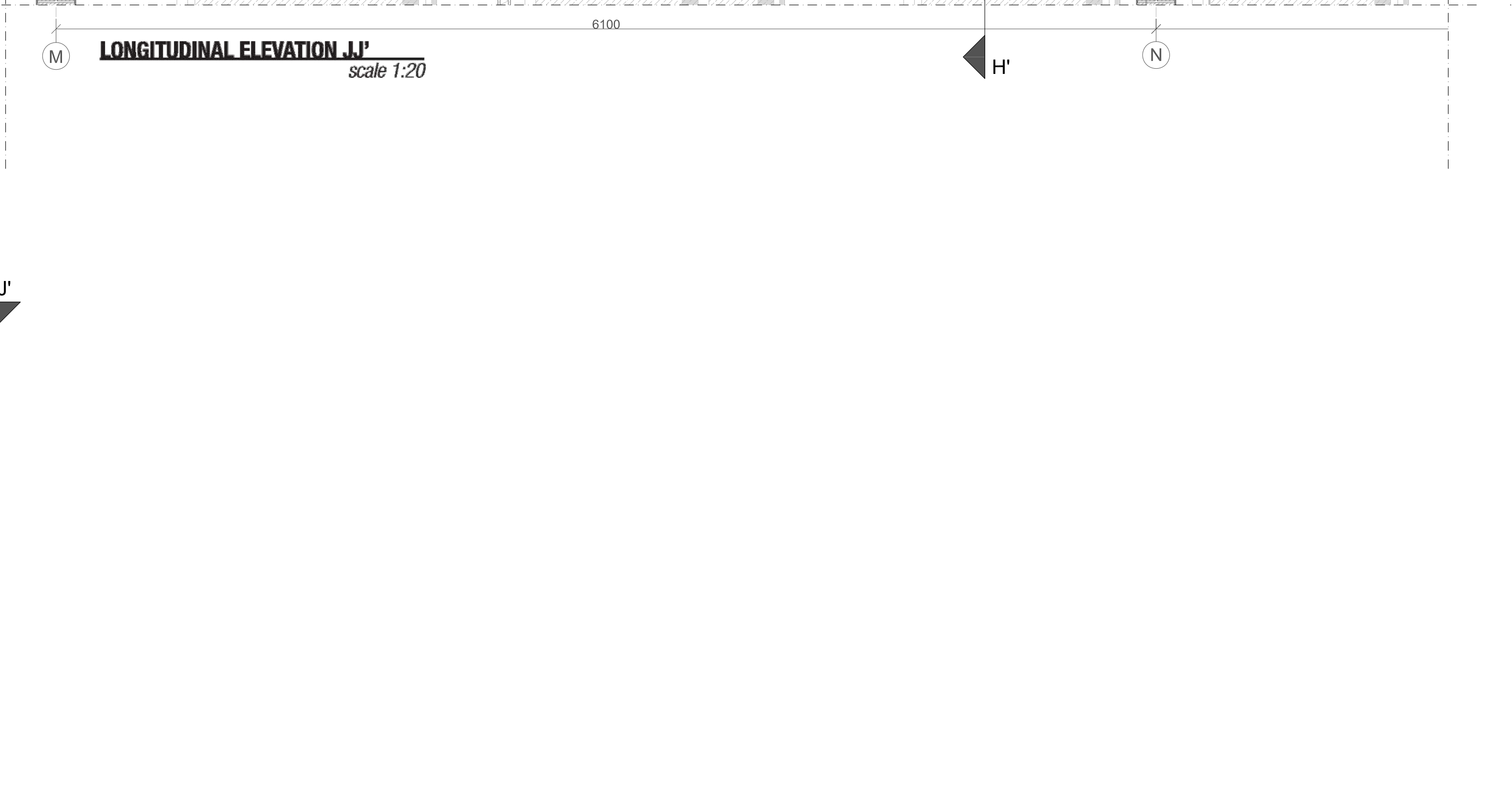
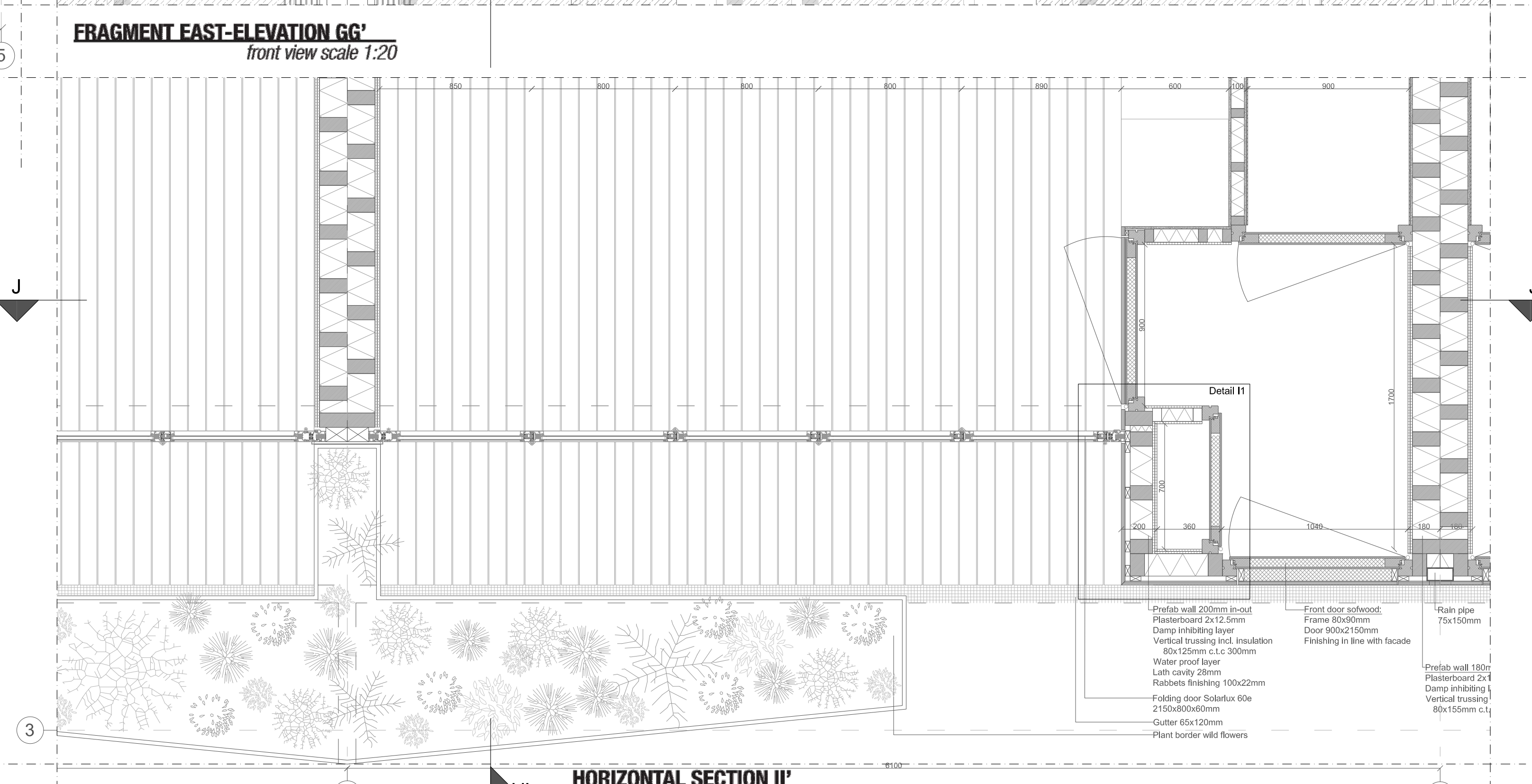
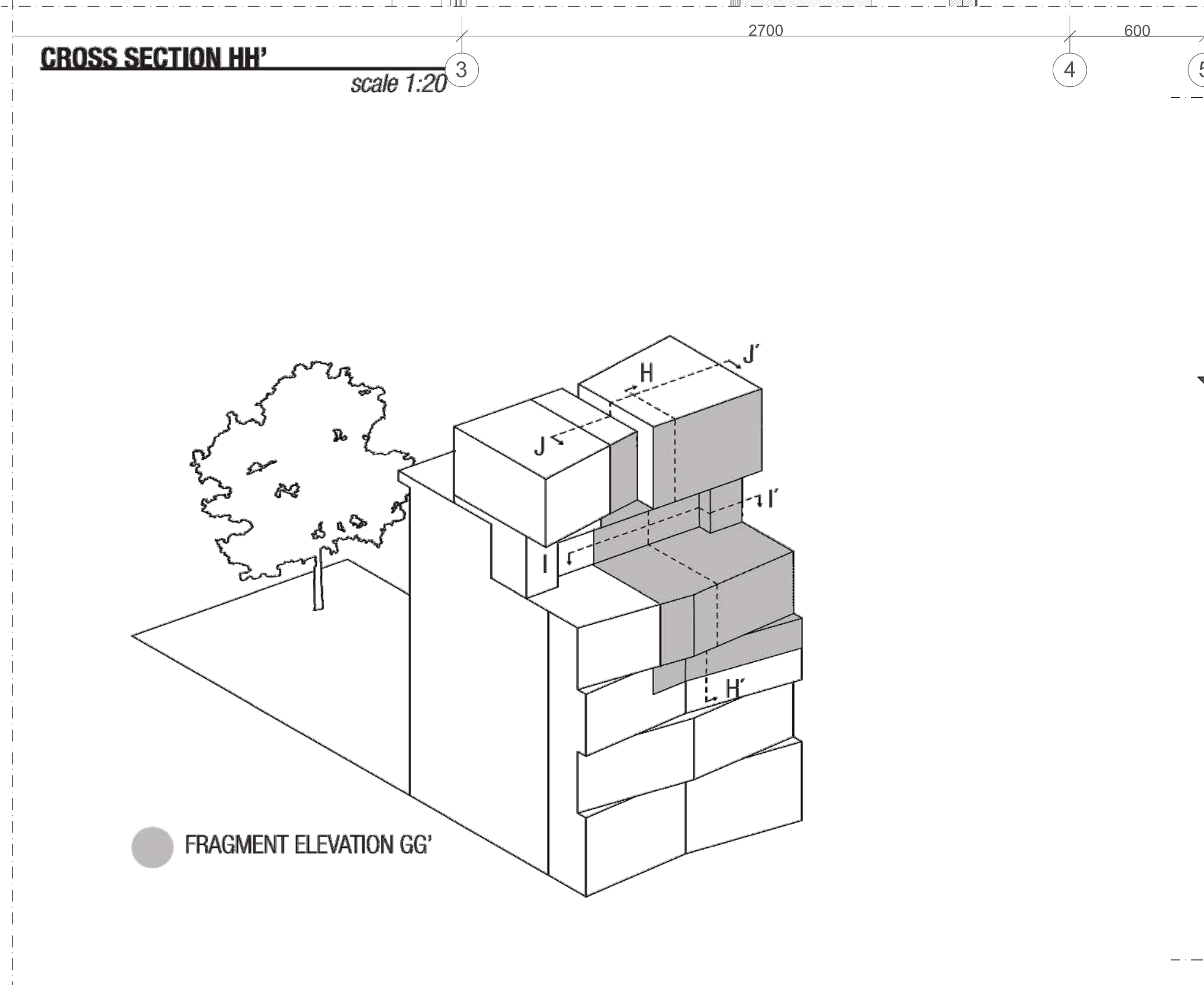
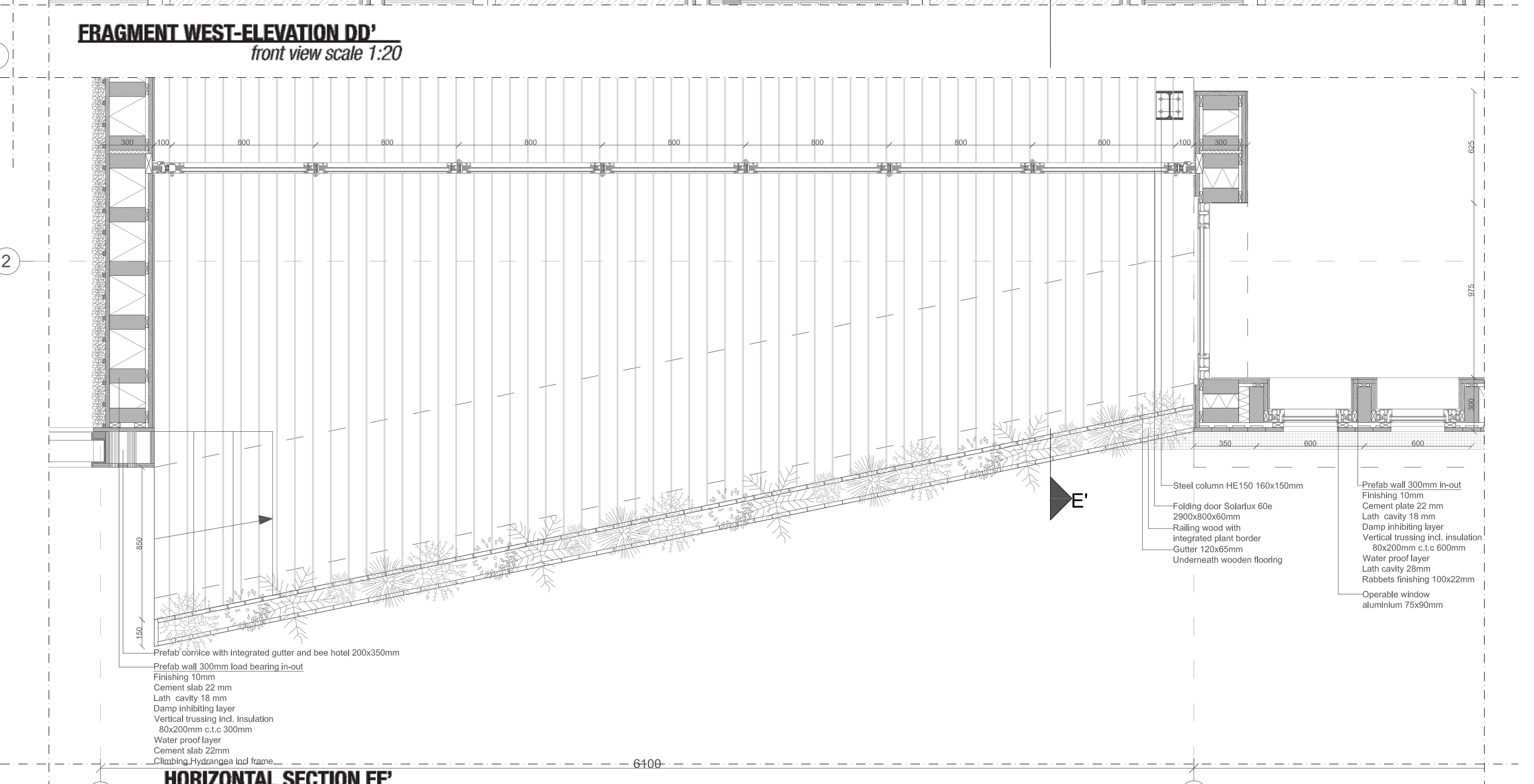
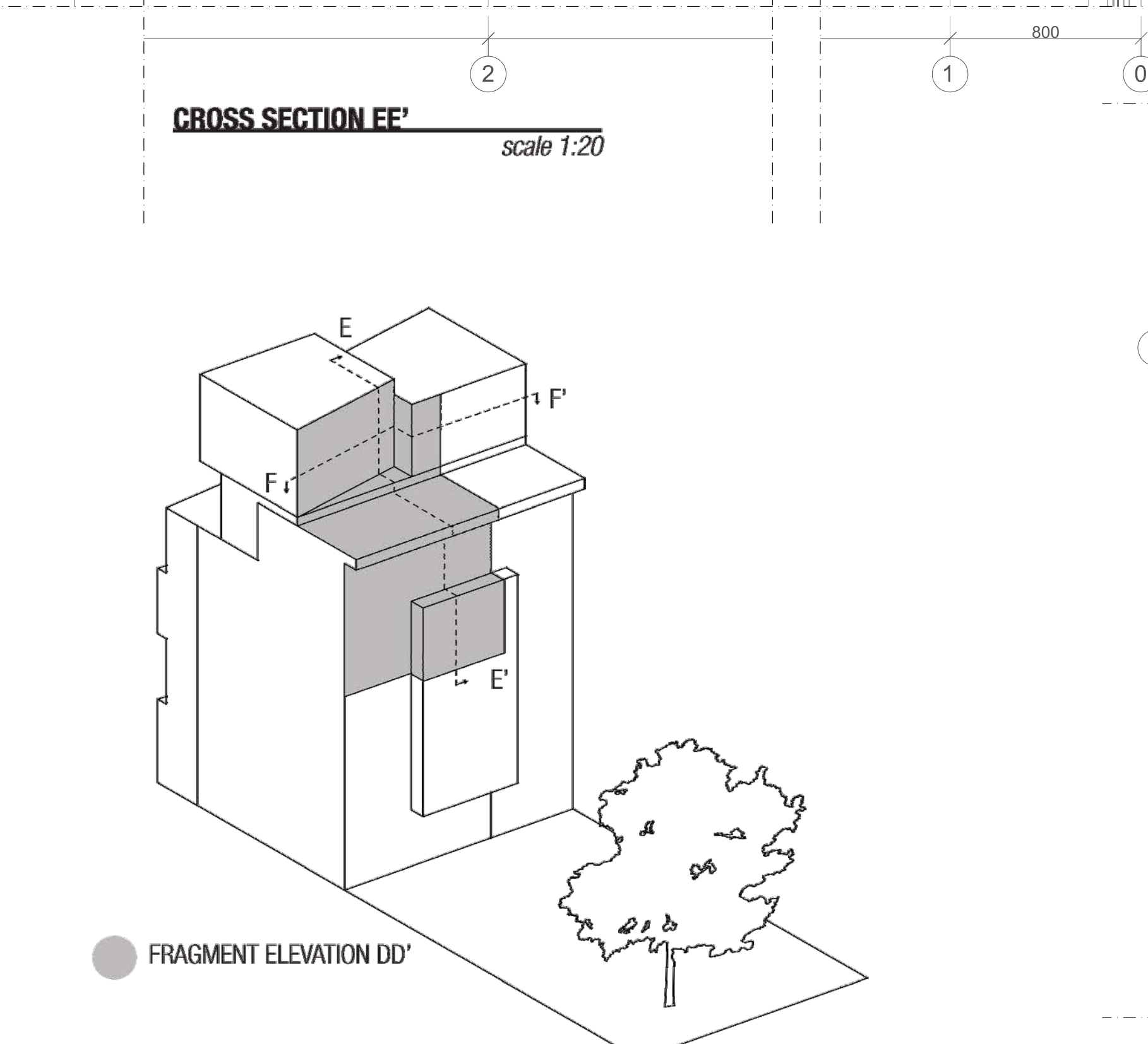
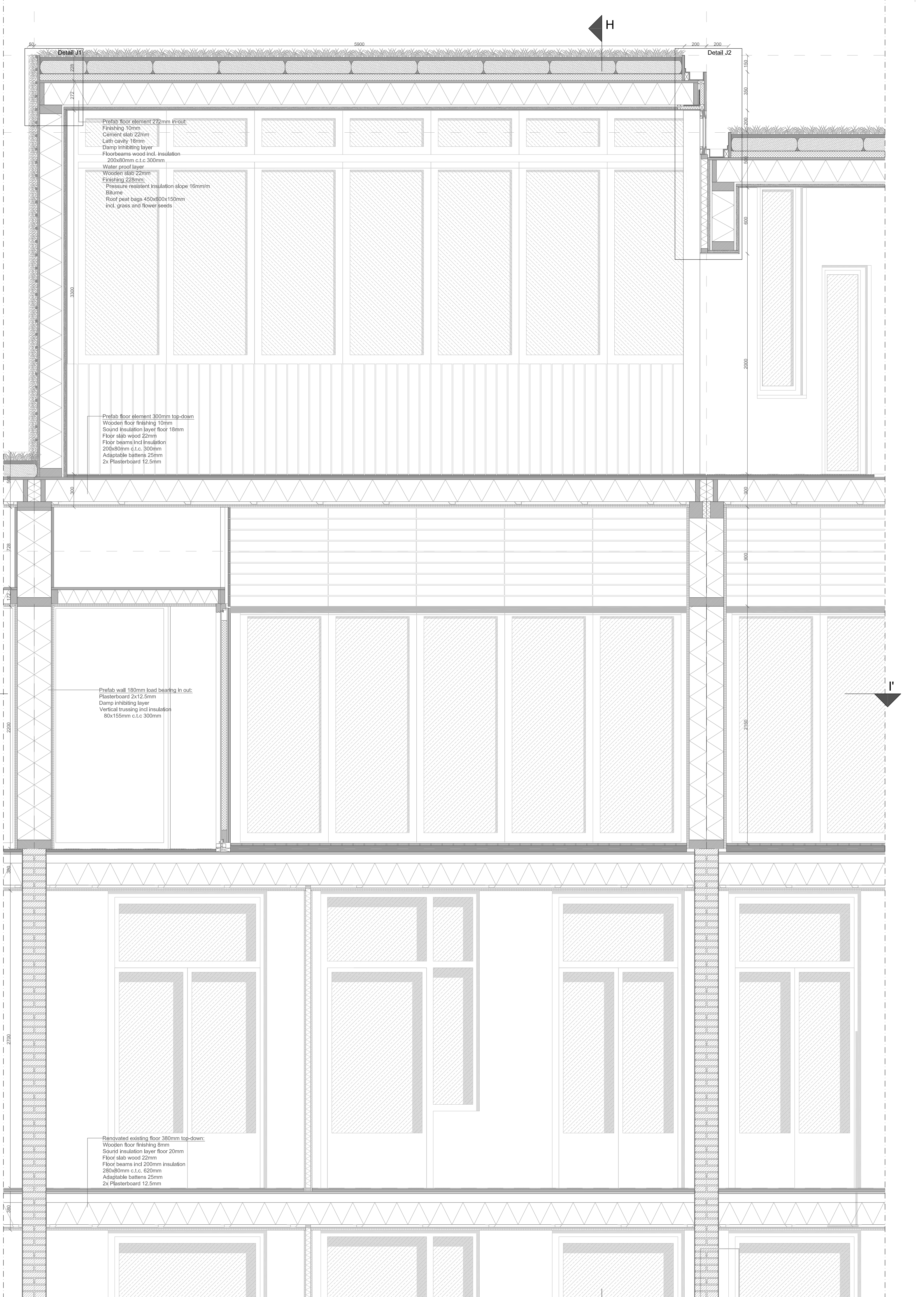
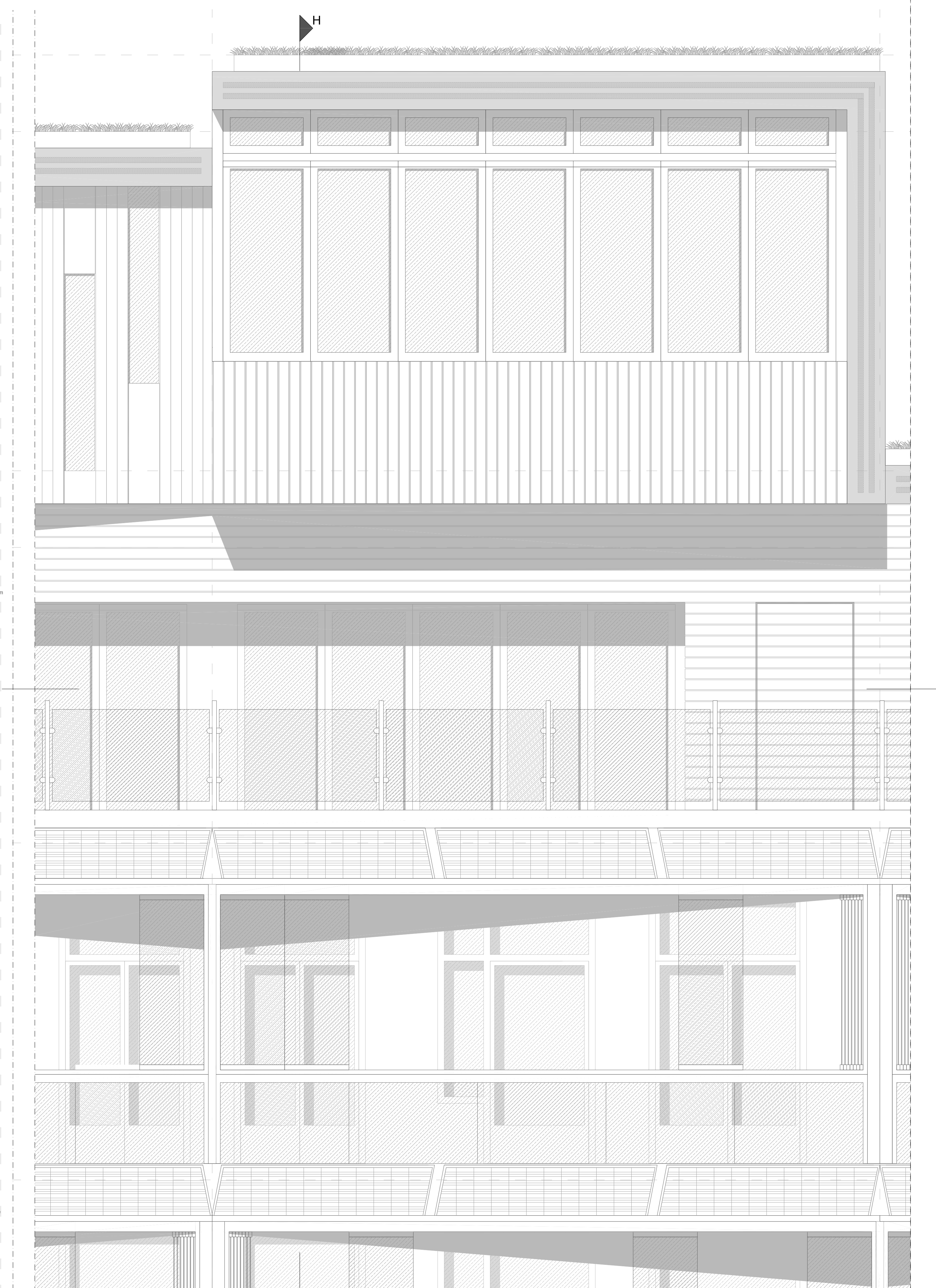
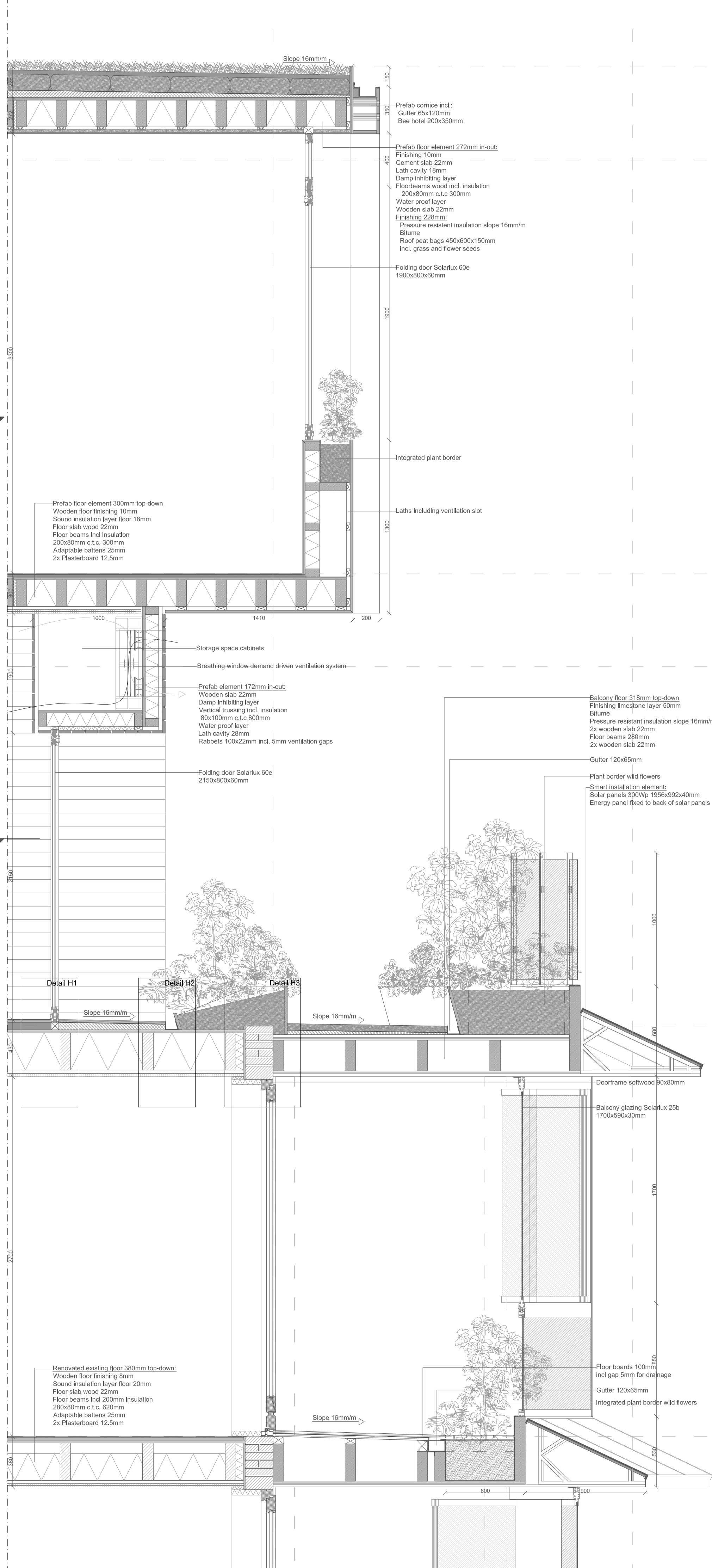
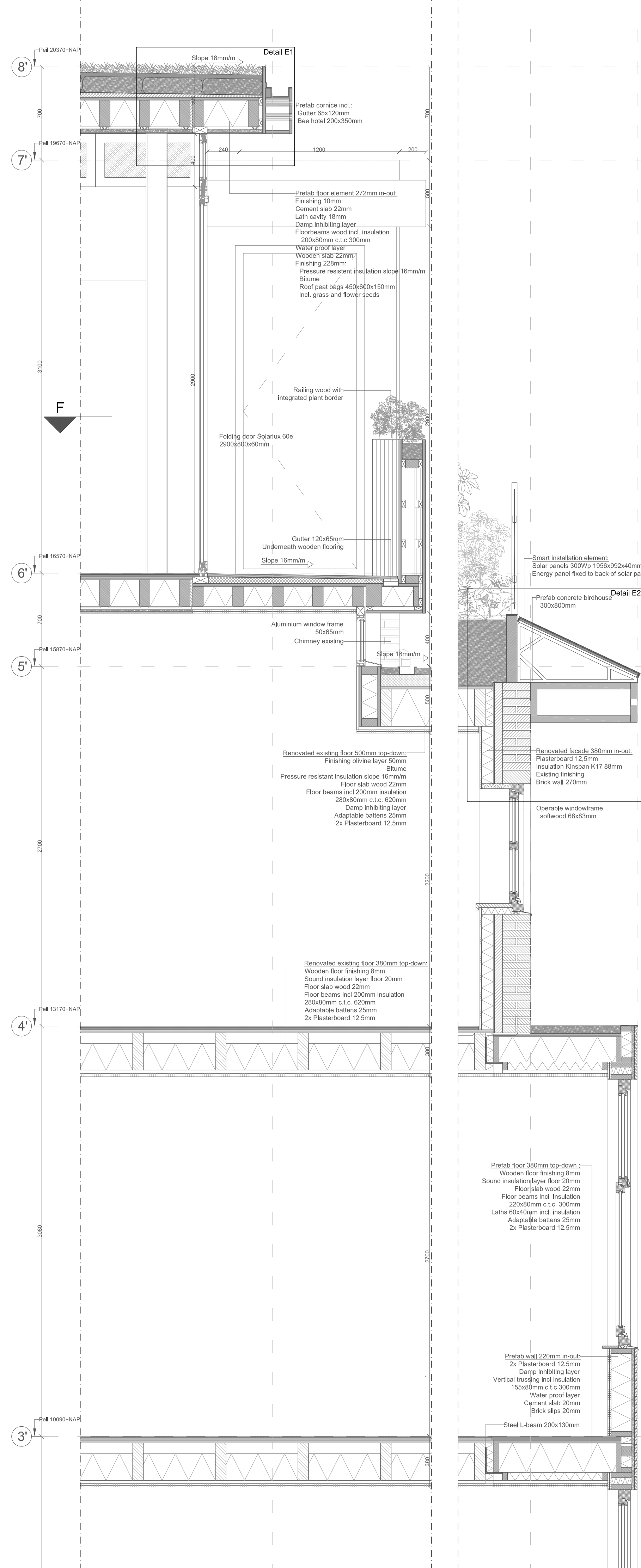


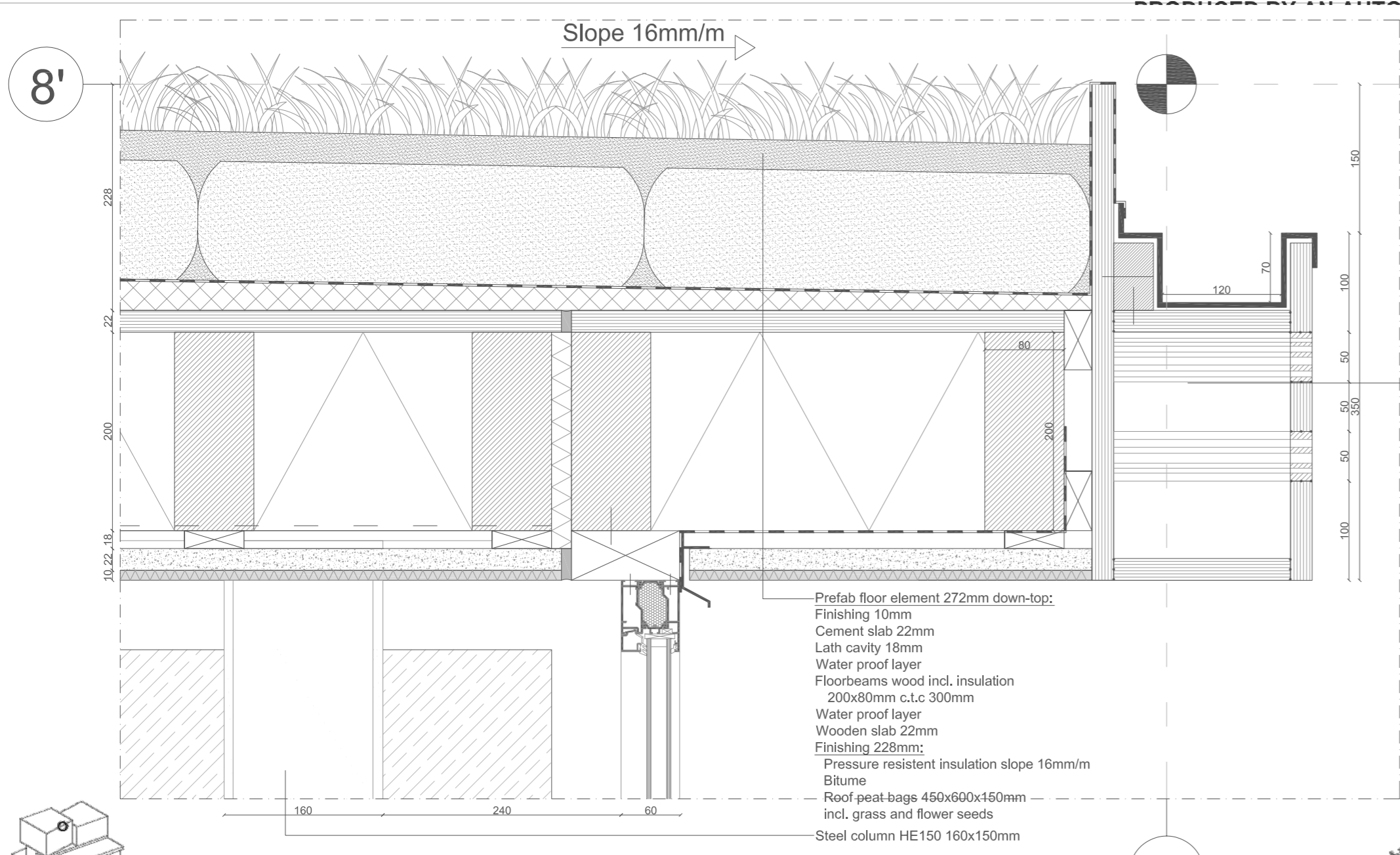
SECTION BB' - climax stage building
scale 1:50 (downsized 0,5)



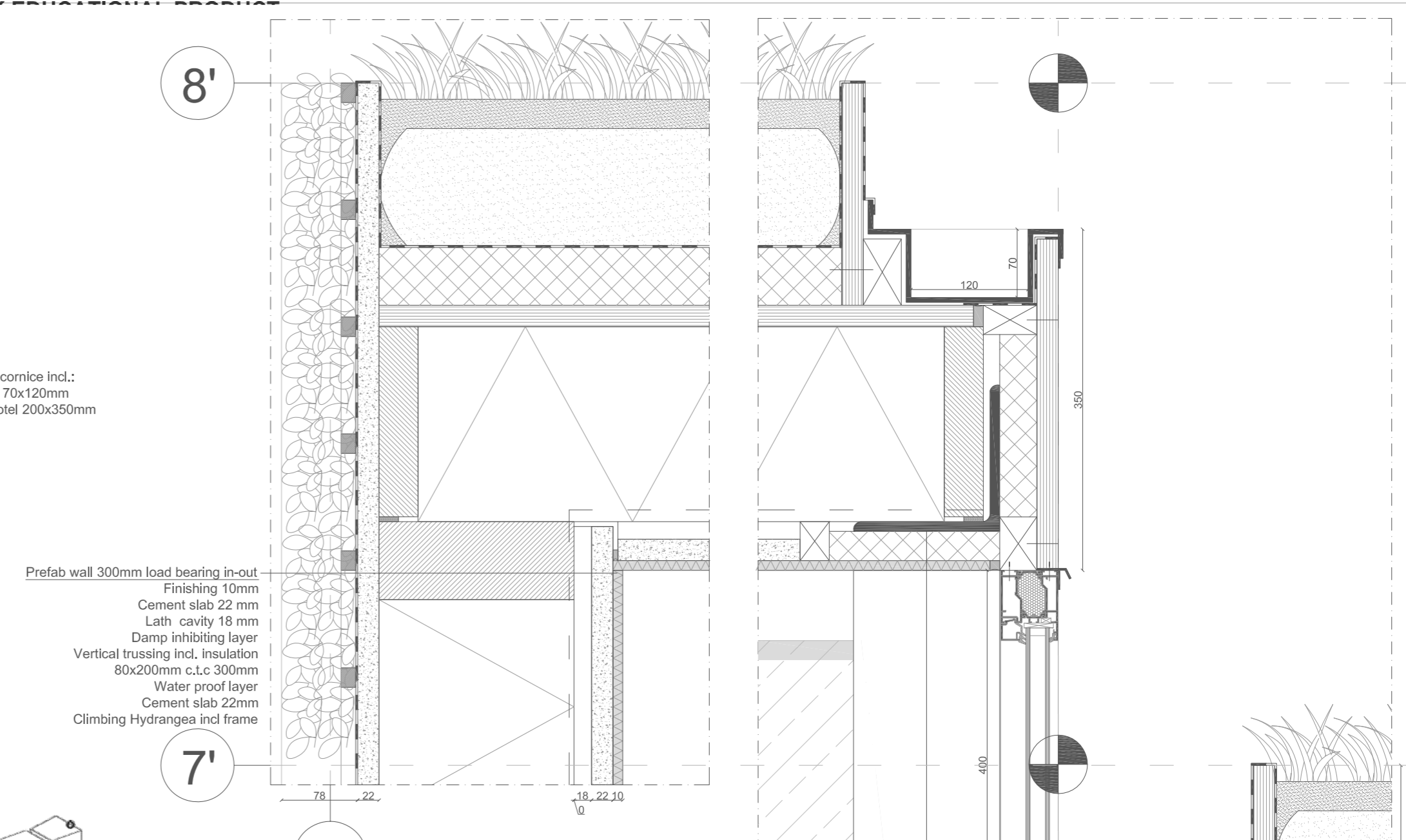
SECTION CC' - climax stage street
scale 1:100

■ = new situation
■ = existing situation

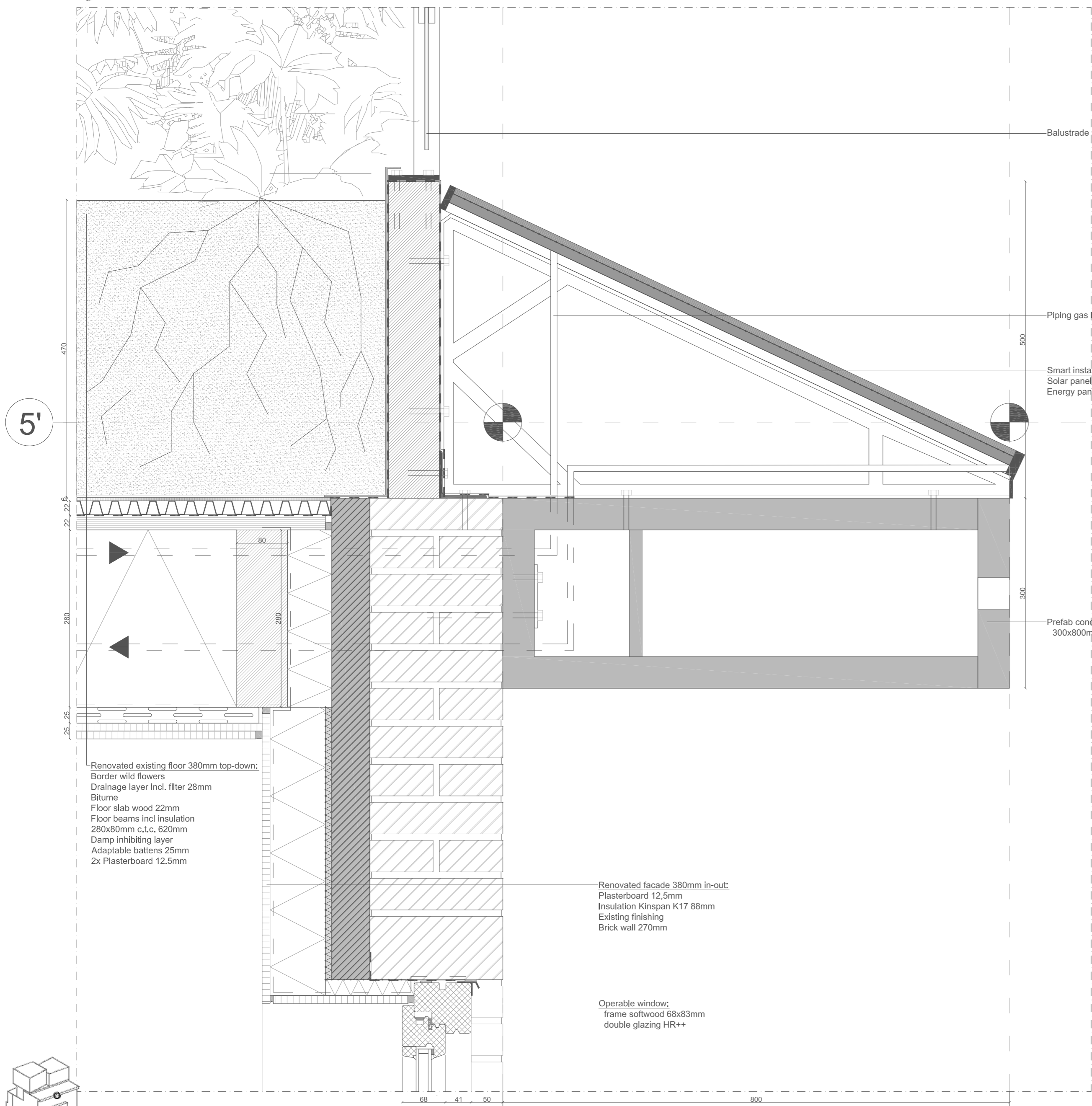




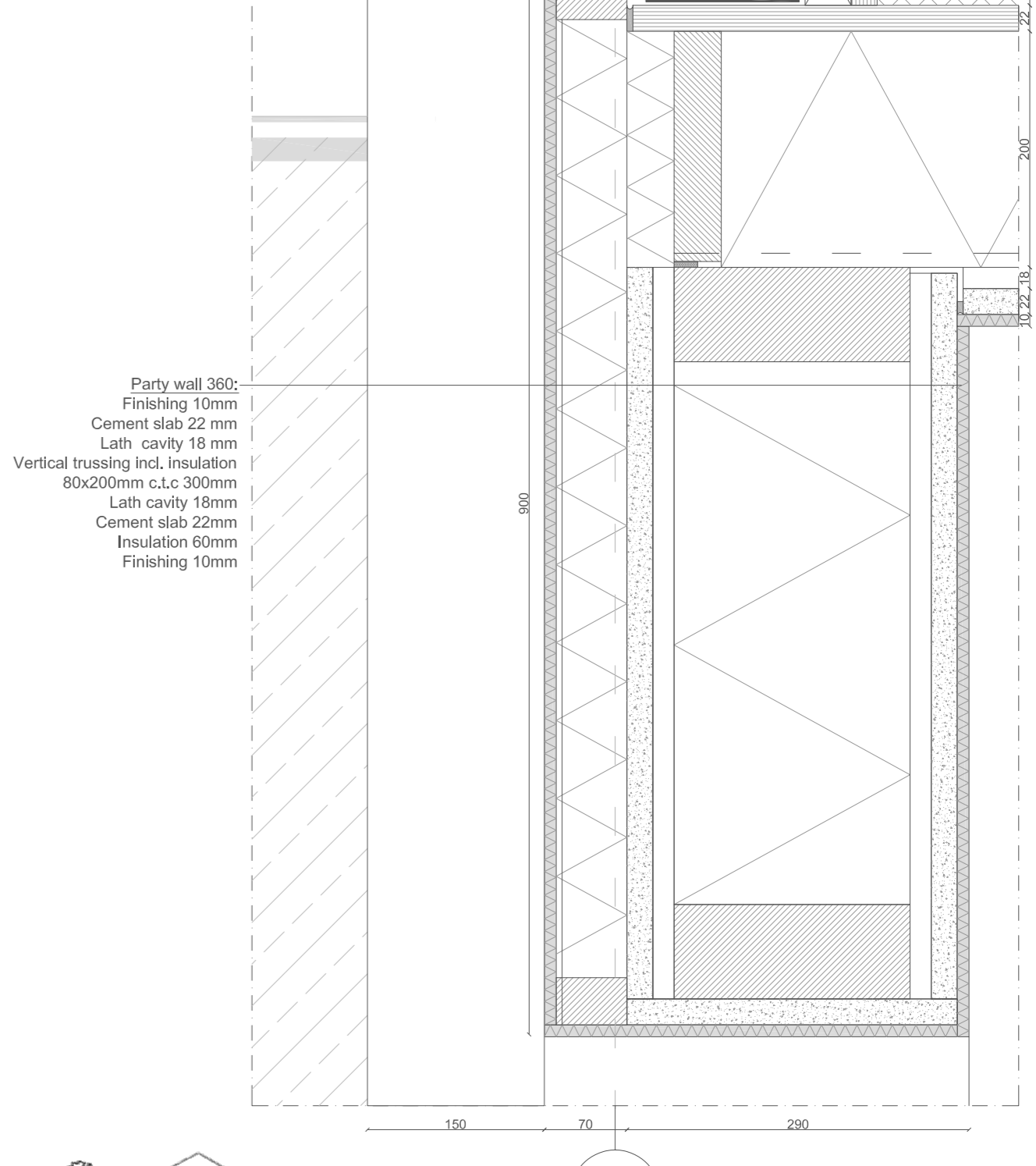
DETAIL E1 - ROOF CONNECTION
 cross section scale 1:5



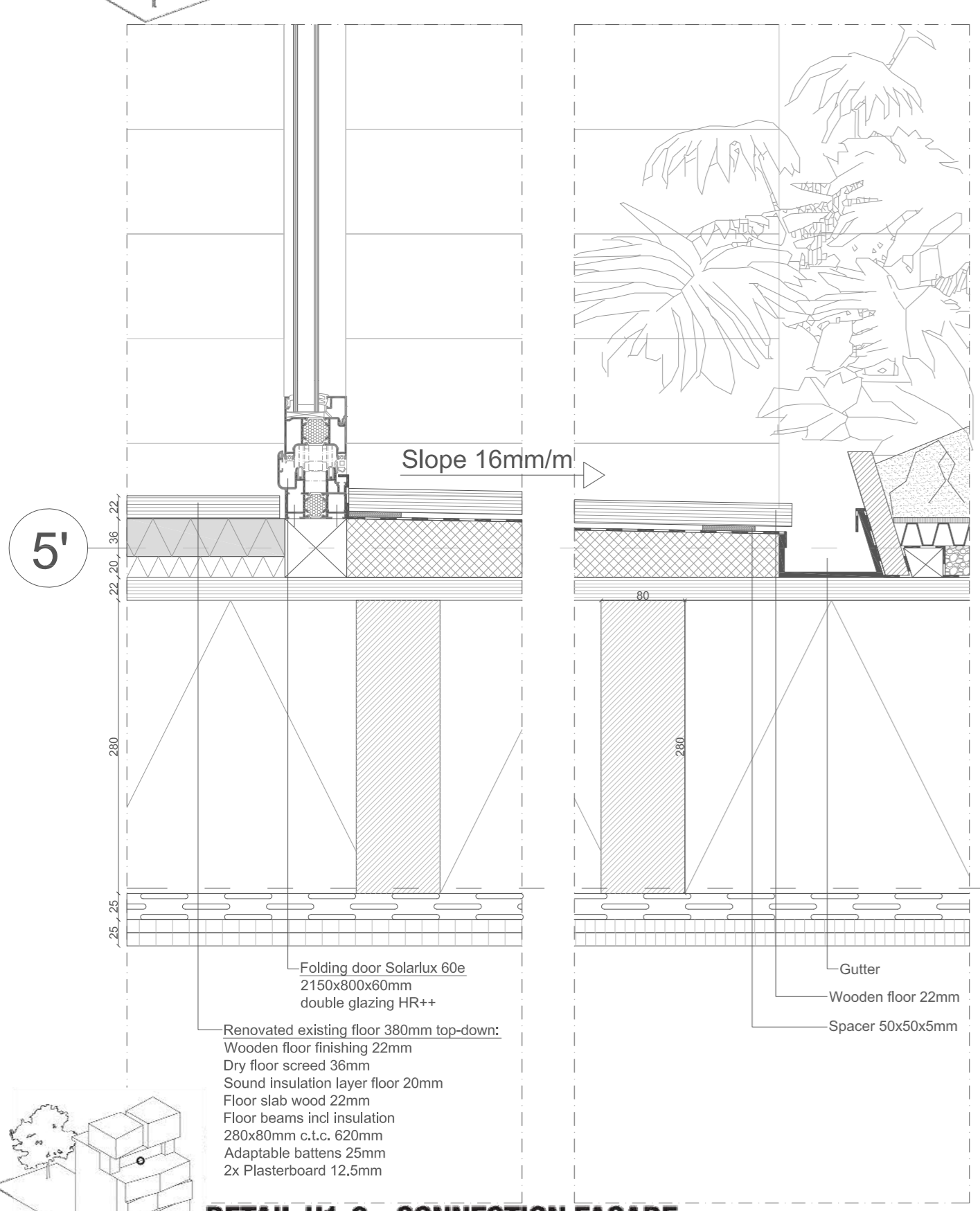
DETAIL J1 - ROOF CONNECTION
 longitudinal section scale 1:5



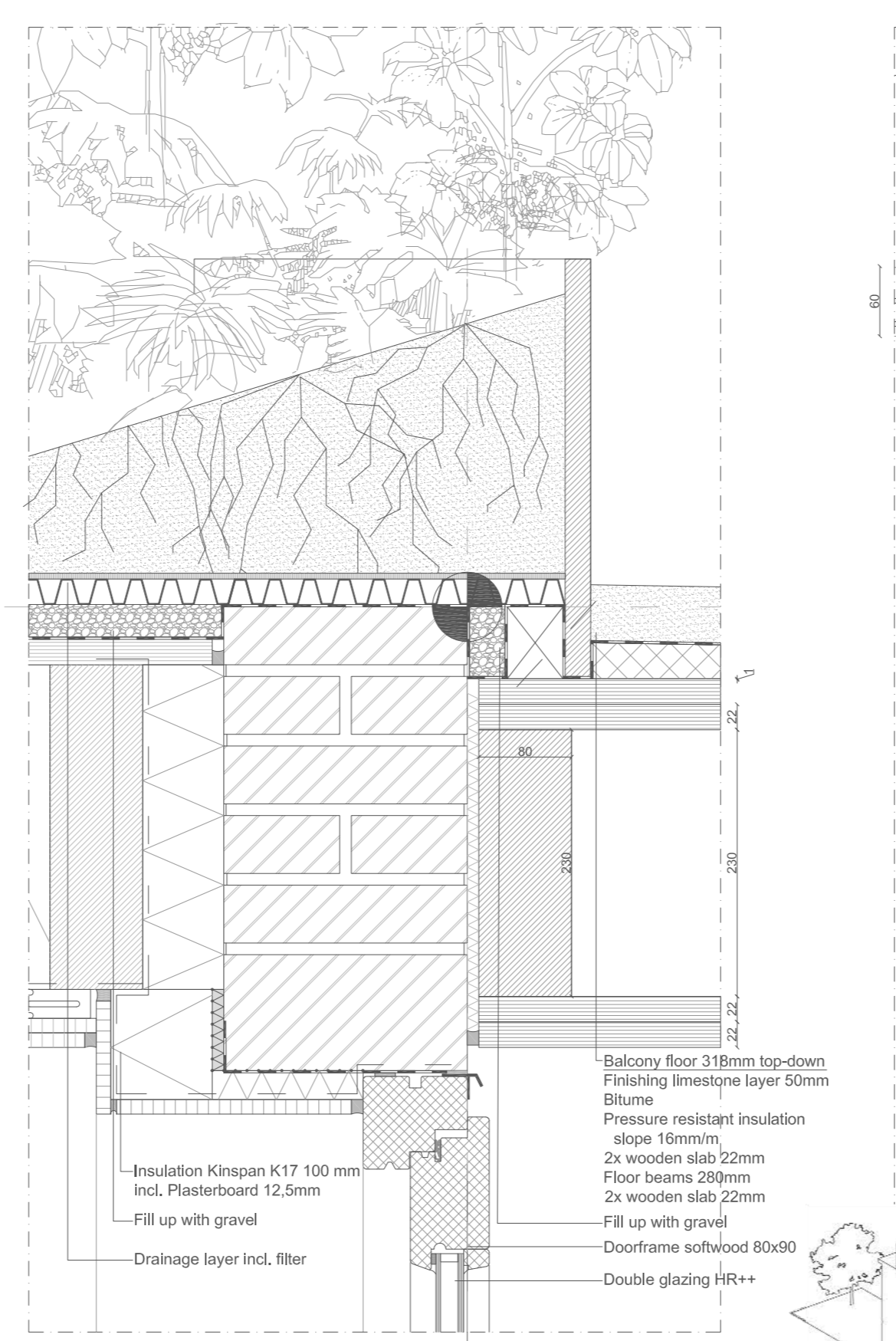
DETAIL F2 - CONNECTION FACADE
 cross section scale 1:5



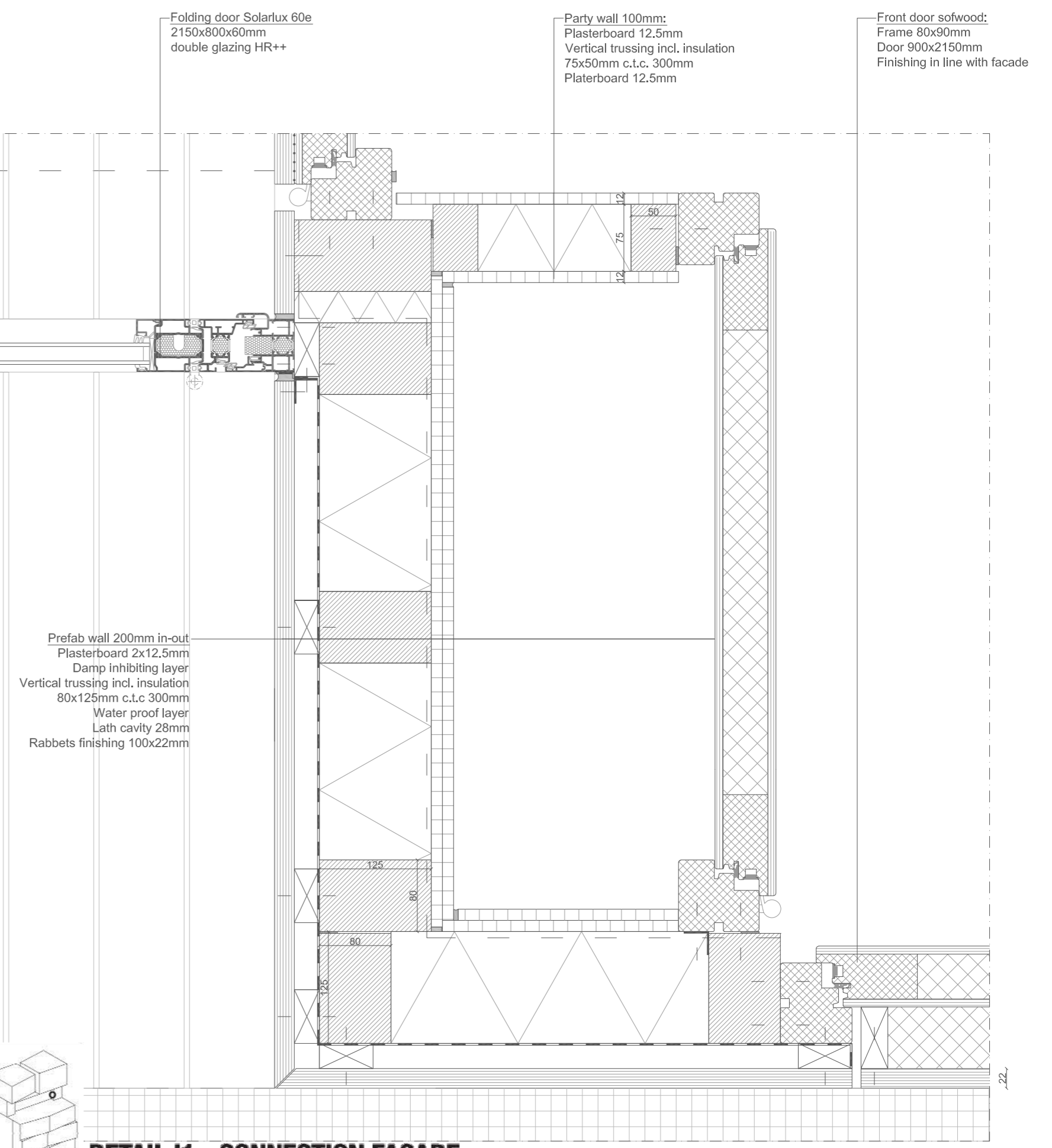
DETAIL J2 - ROOF CONNECTION
 longitudinal section scale 1:5



DETAIL H1-3 - CONNECTION FACADE
 cross section scale 1:5



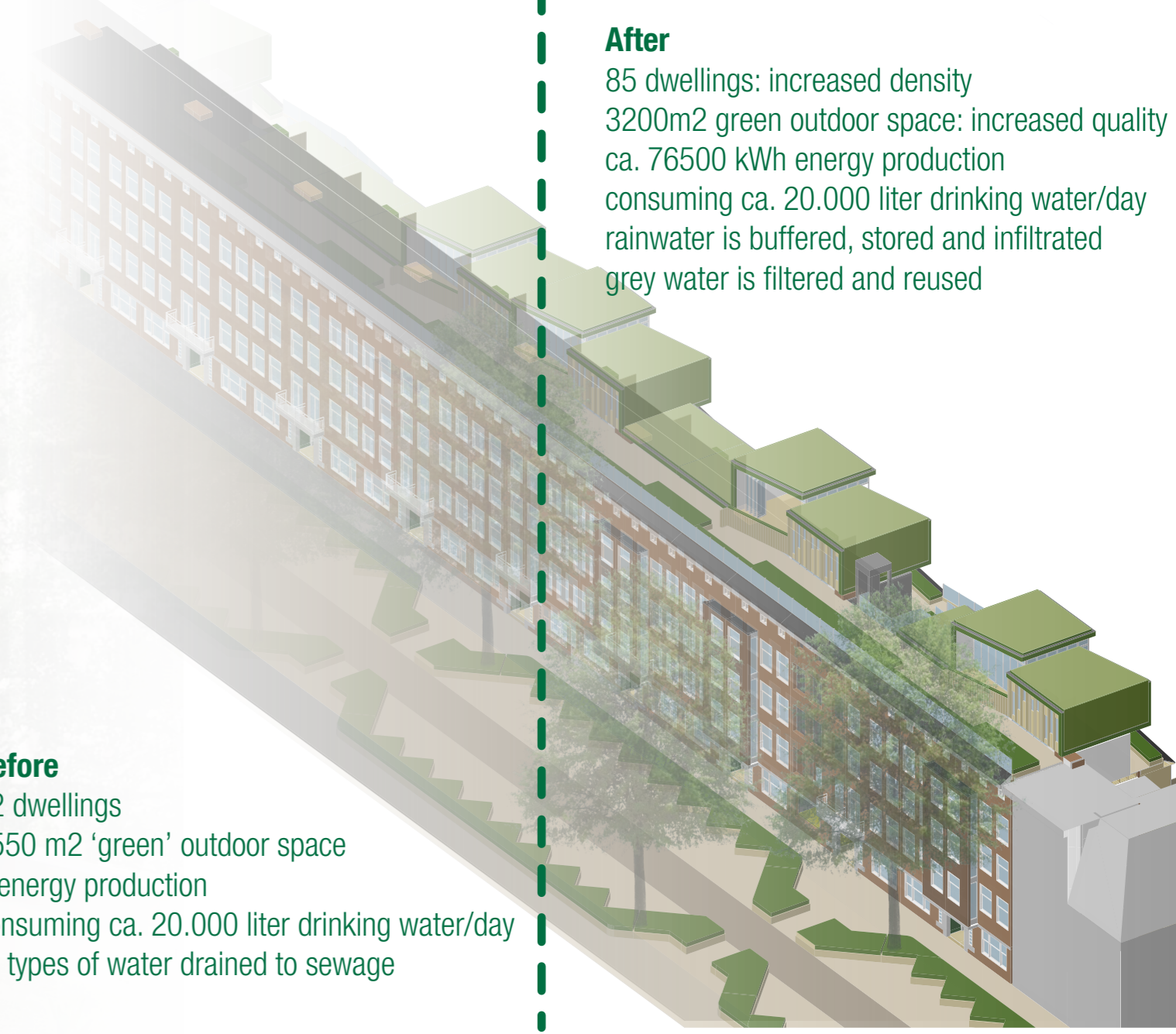
DETAIL H1 - CONNECTION FACADE
 horizontal section scale 1:5



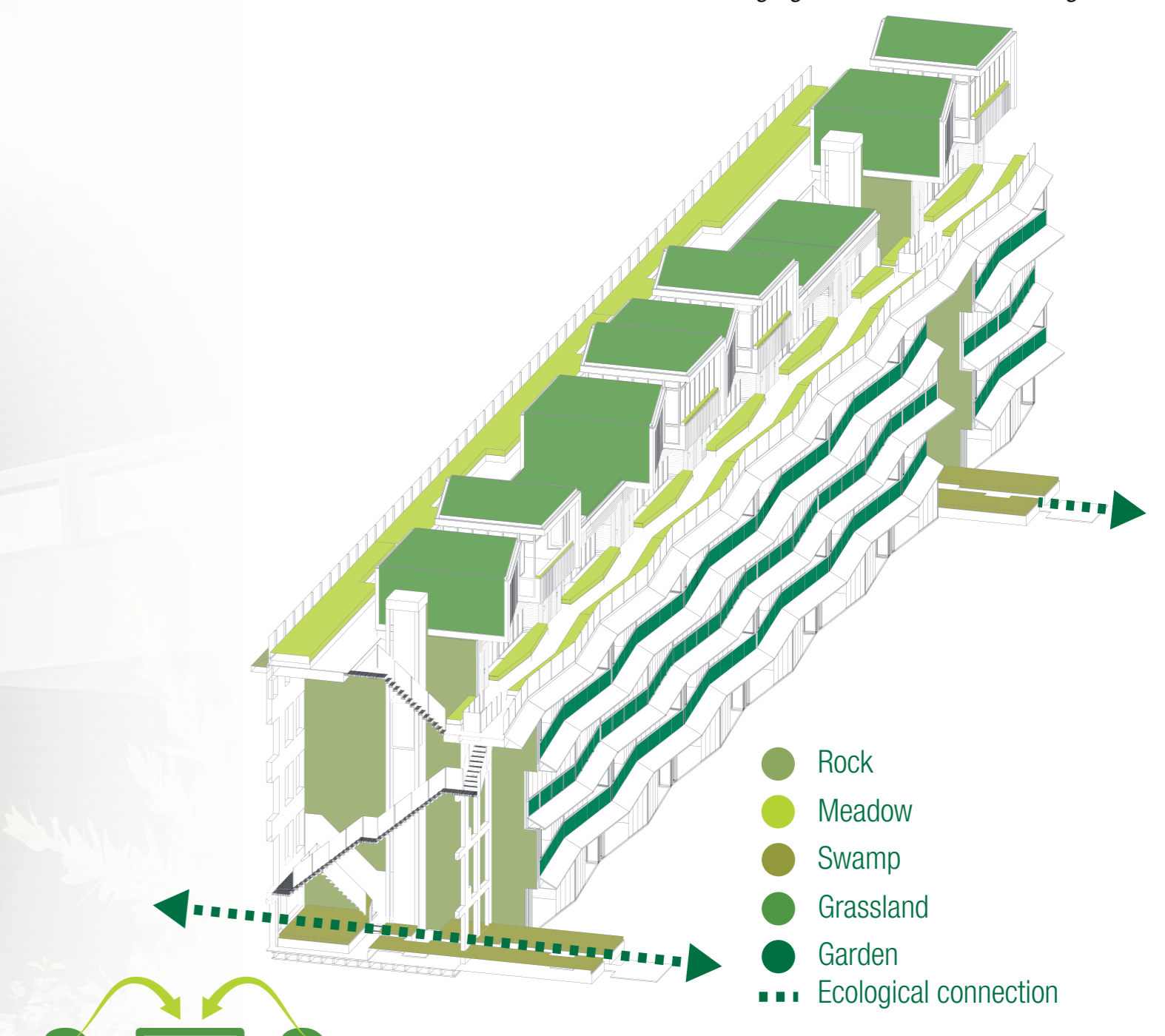


Before
 72 dwellings
 1550 m² 'green' outdoor space
 0 energy production
 consuming ca. 20.000 liter drinking water/day
 all types of water drained to sewage

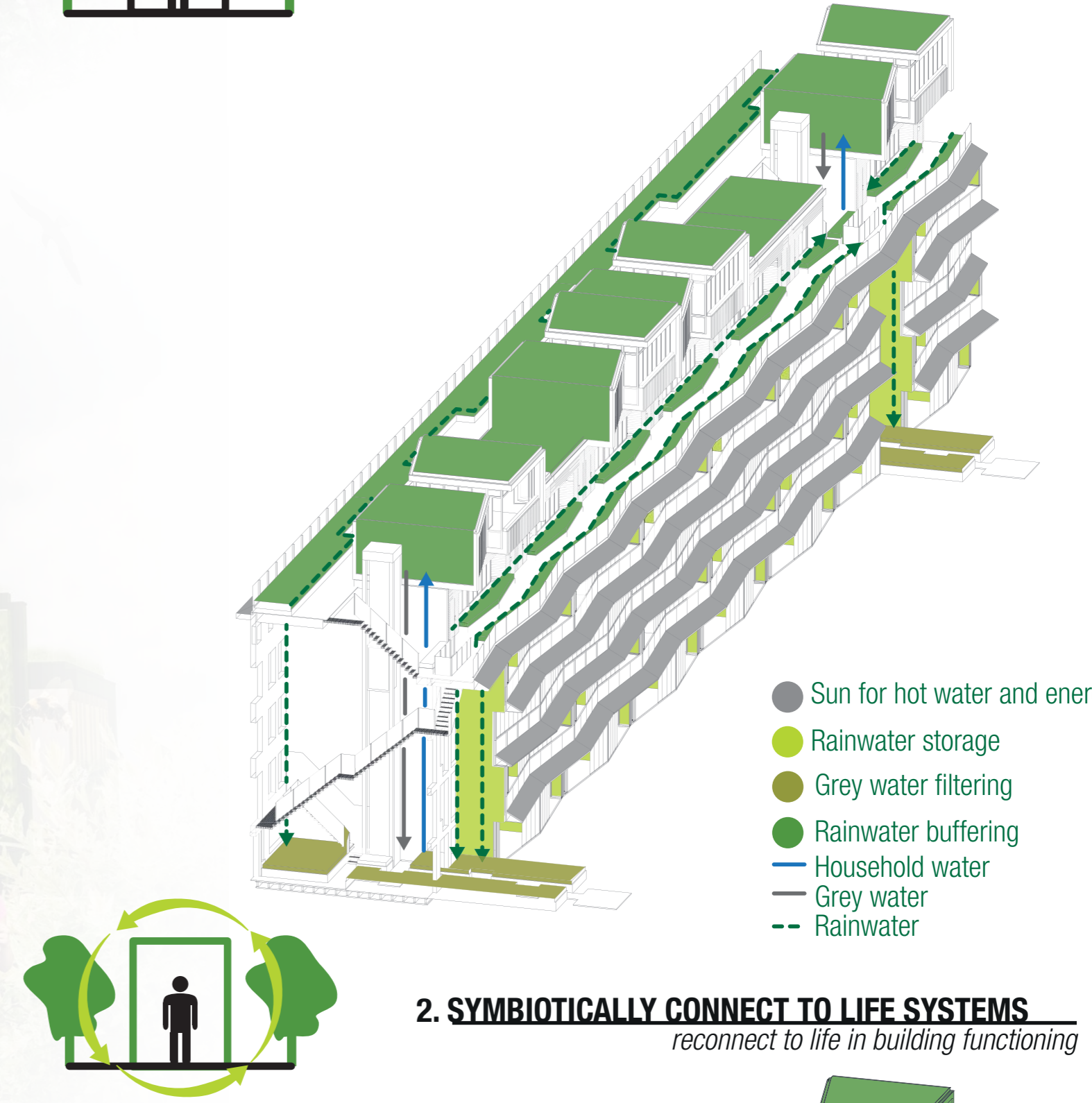
After
 85 dwellings: increased density
 3200m² green outdoor space: increased quality
 ca. 76500 kWh energy production
 consuming ca. 20.000 liter drinking water/day
 rainwater is buffered, stored and infiltrated
 grey water is filtered and reused



BEFORE - AFTER COMPARISON
from damaging life towards contributing to life



1. RE-INVITE LIFE INTO THE BUILT ENVIRONMENT
reconnect to life in building structure



2. SYMBIOTICALLY CONNECT TO LIFE SYSTEMS
reconnect to life in building functioning



3. MAKE PEOPLE EXPERIENCE THE VALUE OF LIFE
reconnect to life in architecture