

DISTRİK MELINGKAR



CIRCULAR HOUSING

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INDONESIAN HOUSING MARKET

THE GOAL OF MY PROJECT

2. RESEARCH

CIRCULAR ECONOMY

AN ASSESSMENT OF THE INDONESIAN HOUSING CLUSTERS

3. ARCHITECTURAL DESIGN

1. INTRODUCTION

INDONESIA

INDONESIA









Central Java sees housing shortage

The Jakarta Post

The Jakarta Post

Semarang / Sat, August 2, 2014 / 08:31 am

0 SHARES

Central Java is experiencing a shortage of housing units in July as a result of an accumulation of unfinished units.



Head of the Indonesian Real Estate Association (GRI) Priyanto, stated that his members aim to build 6,000 housing units per year. They aimed to reach the same target in 2014, he said. "It's not easy to achieve at the moment," he said. *Kompas.com* on Friday. "We have this year, and if we reach 6,000 units, it will be a success."



He added that several factors, including the high cost of land to build houses on, had contributed to the housing shortage for this first half. "We have a target of 6,000 units per year, but we only managed to build 3,000 units so far."



PROPERTY | Mass Housing Plan Spells Massive Opportunity

Indonesia's new government has vowed to tackle a national shortage of housing by increasing state support for affordable accommodation and by constructing hundreds of apartment blocks for low-income residents, including those currently living in makeshift shelters. As governor of Jakarta, president-elect Joko Widodo proved to stand by his word when he rehoused squatters from the slum areas to newly-built low-cost apartments; he is expected to pursue similar policies on a national scale as president. Media reports suggest the new administration will redouble efforts to encourage developers to provide subsidized housing and banks to support projects with reasonable mortgages. This spells business opportunities for real estate developers and suppliers of building materials, particularly in the budget end of the market (See [Indonesia's Building and Construction Materials Sector](#)).



The renewed vision in the provision of affordable accommodation in Indonesia's fast-growing urban population spells enticing business opportunities for cost developers and their suppliers

Indonesia's residential market on the rise

Indonesia | Construction

Overview

Text size + -

[View in online reader](#)

Recommend ✓

A growing middle class and rising levels of urbanisation have supported rapid real estate growth in Indonesia, and there remains substantial room for expansion in the coming years.

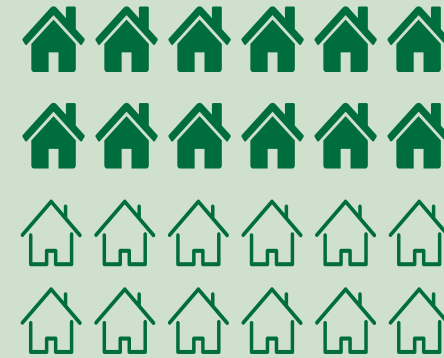
While the government has moved to prevent a real estate bubble, and a commodities price crash and macroeconomic slowdown weighed on growth between 2013 and 2015, the sector began to regain its footing in 2016, with property sales forecast to rise for the first time in six years in 2017.

Bank Indonesia (BI), the central bank, kept interest rates low during the first half of 2017, after a series of rate cuts the previous year, with home ownership forecast to increase on the back of new government lending and affordable housing initiatives. Recent reforms to property and real estate investment trust (REIT) tax regimes should boost foreign direct investment (FDI) inflows significantly in the coming years.

Although demand in the office market has flagged in recent years due to increasing supply, a growing pool of entrepreneurs, start-ups and tech-oriented businesses operating in Jakarta are expected to transform the market, even as rents and occupancy rates fall across the traditional office segment. Industrial property is also well-positioned for rapid future growth, driven by rising demand in the logistics segment, while land sales in Jakarta also showed promising growth during the opening months of 2017.

RECENT GROWTH: Indonesia's real estate sector appears poised for a turnaround in 2017, with sales set to rise for the first time since 2013.

Market research firm Mordor Intelligence has reported that between 2012 and the second half of 2013, 26 out of 45 property companies listed on the Indonesia Stock Exchange (IDX) posted a net profit growth of more than 50%.



HOUSING BACKLOG OF 15 MILLION HOMES



HOUSING CLUSTER



HIGH RISE

CURRENT BUILDING RATE
1.000.000 UNITS / YEAR



HOUSING CLUSTER



Our City



Cluster modern untuk kaum urban dengan fasilitas lengkap.





JL. BOULEVARD ALAM SURYA
KODE POS 17550





2

6

GOAL

TO PROPOSE A REDESIGN OF
THE INDONESIAN CLUSTER HOUSE
&
MINIMIZE ITS ENVIRONMENTAL IMPACT

2. RESEARCH

RESEARCH QUESTION

WHAT DESIGN PRINCIPLES ARE USED WHEN DESIGNING SUSTAINABLE NEIGHBOURHOODS AND WHICH ONES WOULD CONTRIBUTE TOWARDS A REDESIGN OF THE INDONESIAN HOUSING CLUSTER, **TO MINIMIZE ITS ENVIRONMENTAL IMPACT?**

RESEARCH METHOD

1. CIRCULAR ECONOMY IN THE BUILT ENVIRONMENT



2. FRAMEWORK OF 15 KEY DESIGN PRINCIPLES AND STRATEGIES



3. ASSESSMENT OF 3 CASE STUDIES

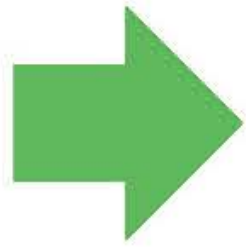


4. MY OWN AMBITIONS TOWARDS A SUSTAINABLE REDESIGN

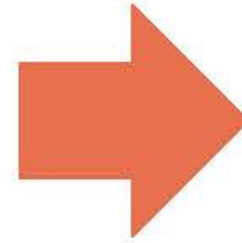
LINEAR ECONOMY



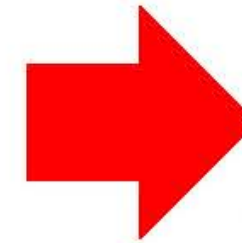
RESOURCES



MANUFACTURING



CONSUMPTION



WASTE

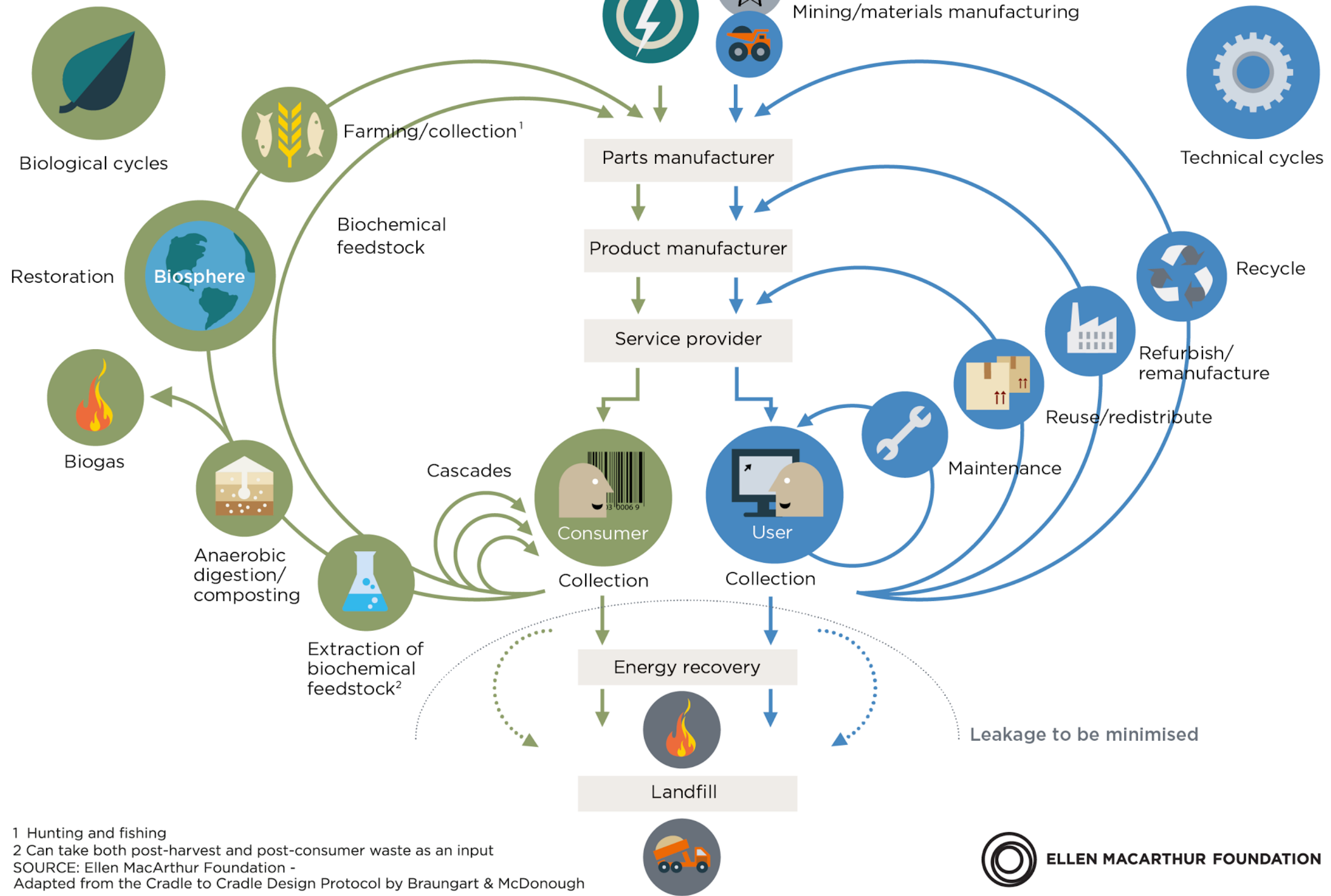
CIRCULAR ECONOMY

**“WASTE IS A
DESIGN FLAW”**



**“NOTHING IS
WASTED AND WASTE
IS FOOD”**

CIRCULAR ECONOMY



1 Hunting and fishing

2 Can take both post-harvest and post-consumer waste as an input

SOURCE: Ellen MacArthur Foundation -

Adapted from the Cradle to Cradle Design Protocol by Braungart & McDonough

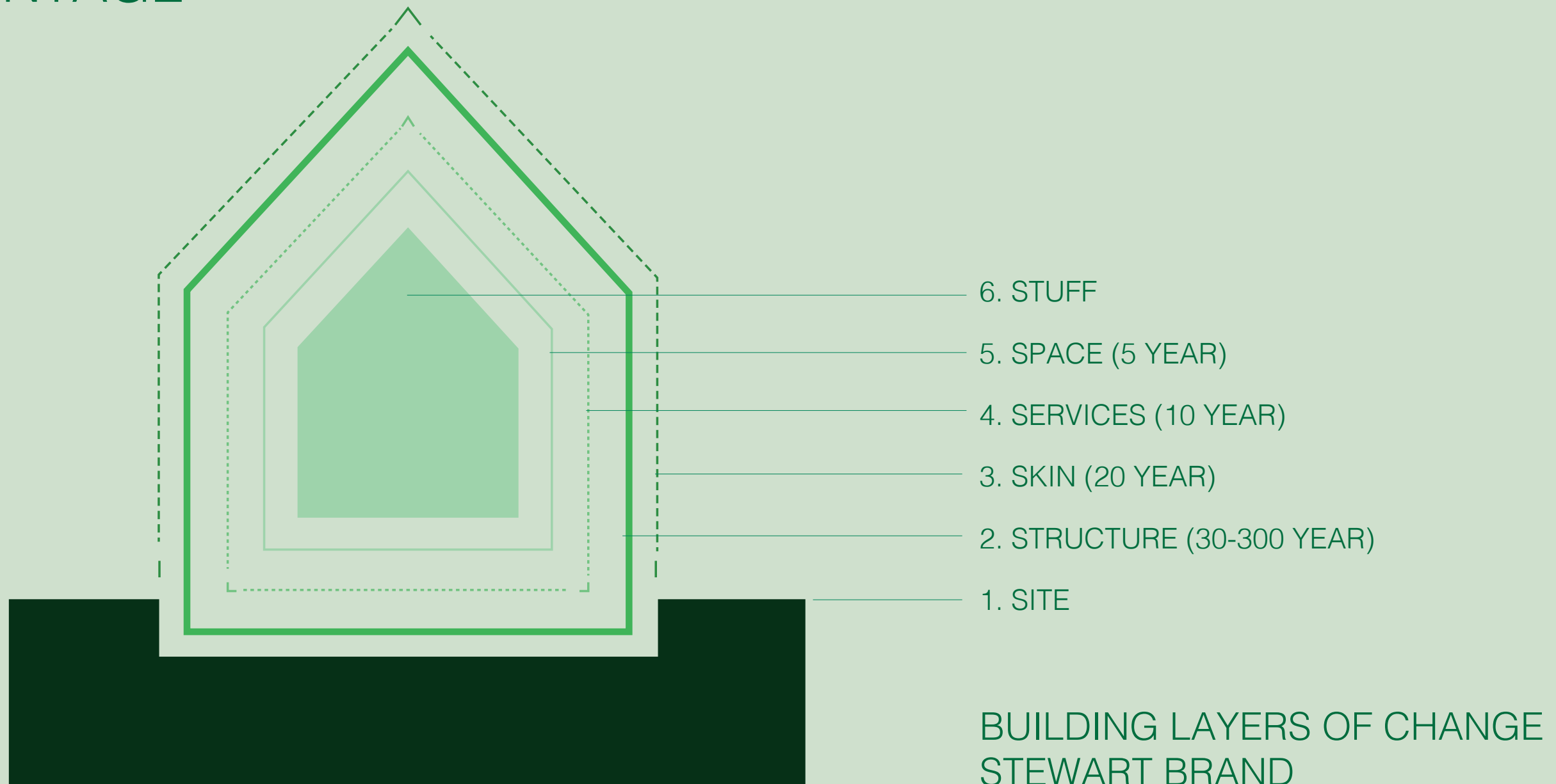
CIRCULAR ECONOMY IN THE BUILT ENVIRONMENT

TWEE GROTE VERANDERINGEN TEN OPZICHTE VAN HET LINEARE MODEL:

1. ONTWERP NIET ALLEEN VOOR MONTAGE MAAR OOK DEMONTAGE
2. EEN ANDER BEDRIJFSMODEL IS NODIG. BIJVOORBEELD, LEASEN.

CIRCULAR ECONOMY IN THE BUILT ENVIRONMENT

1. ONTWERP NIET ALLEEN VOOR MONTAGE MAAR OOK DEMONTAGE



FRAMEWORK OF CIRCULAR ECONOMY



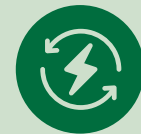
CLUSTER LEVEL



HOUSING LEVEL



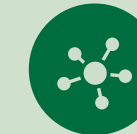
CIRCULAR ECONOMY



ENERGY



MATERIALS



ORGANIZATIONAL
STRUCTURE



WATER & SEWAGE



DESIGN FOR
DISASSEMBLY



CIRCULAR MODELS



WASTE



MATERIAL PASSPORT &
BANK



CIRCULATION



FOOD



MAINTENANCE



BUSINESSES &
PARTNERSHIPS



TRANSPORTATION



STANDARDIZATION



SOCIAL STRUCTURE

CE ASSESSMENT OF 15 KEY ASPECTS ON THREE CASE STUDIES

**KAMPUNG NAGA
PAST**



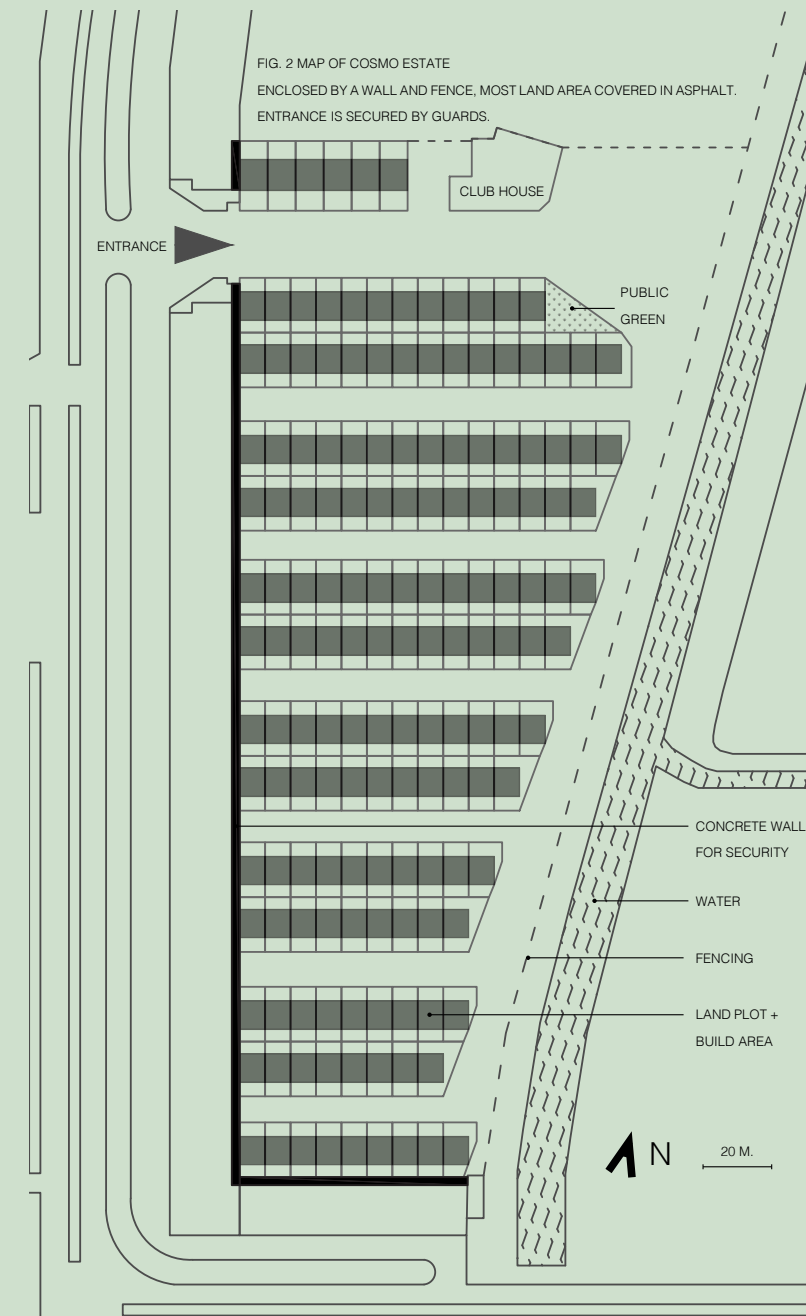
**COSMO ESTATE
PRESENT**



**EVA-LANXMEER
FUTURE**



CE ASSESSMENT OF HOUSING CLUSTER COSMO ESTATE



CE ASSESSMENT OF HOUSING CLUSTER COSMO ESTATE



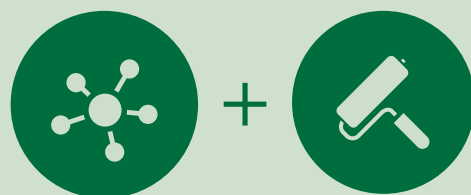
ENERGIE GEBRUIK



MATERIAAL GEBRUIK



CONSTRUCTIE METHODE (BUILDING LAYERS)



BOUWPROCES + KWALITEITSWAARBORGING / LEVENSDUUR



ENERGIE GEBRUIK



30% VAN HET ENERGIE GEBRUIK



MATERIAAL GEBRUIK



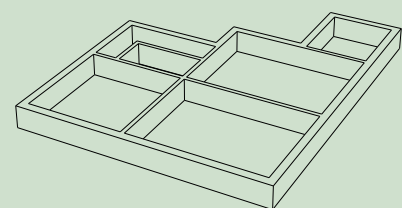
BAKSTEEN



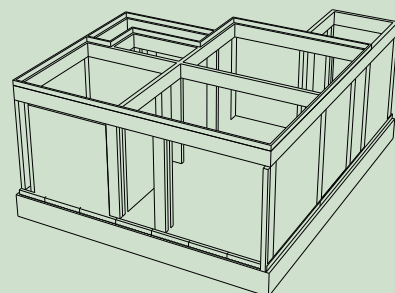
BETON



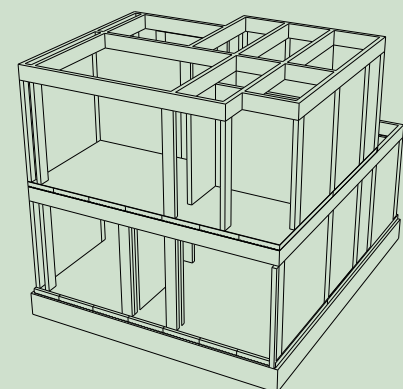
CONSTRUCTIE METHODE (BUILDING LAYERS)



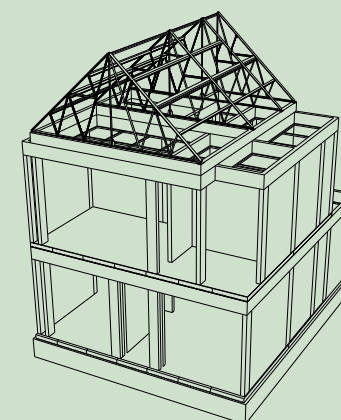
1 Fundering



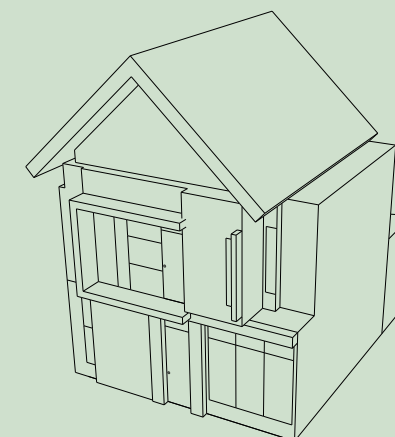
2 Betonnen in het werk gegoten skelet



3 Het betonnen frame wordt gevuld met baksteen



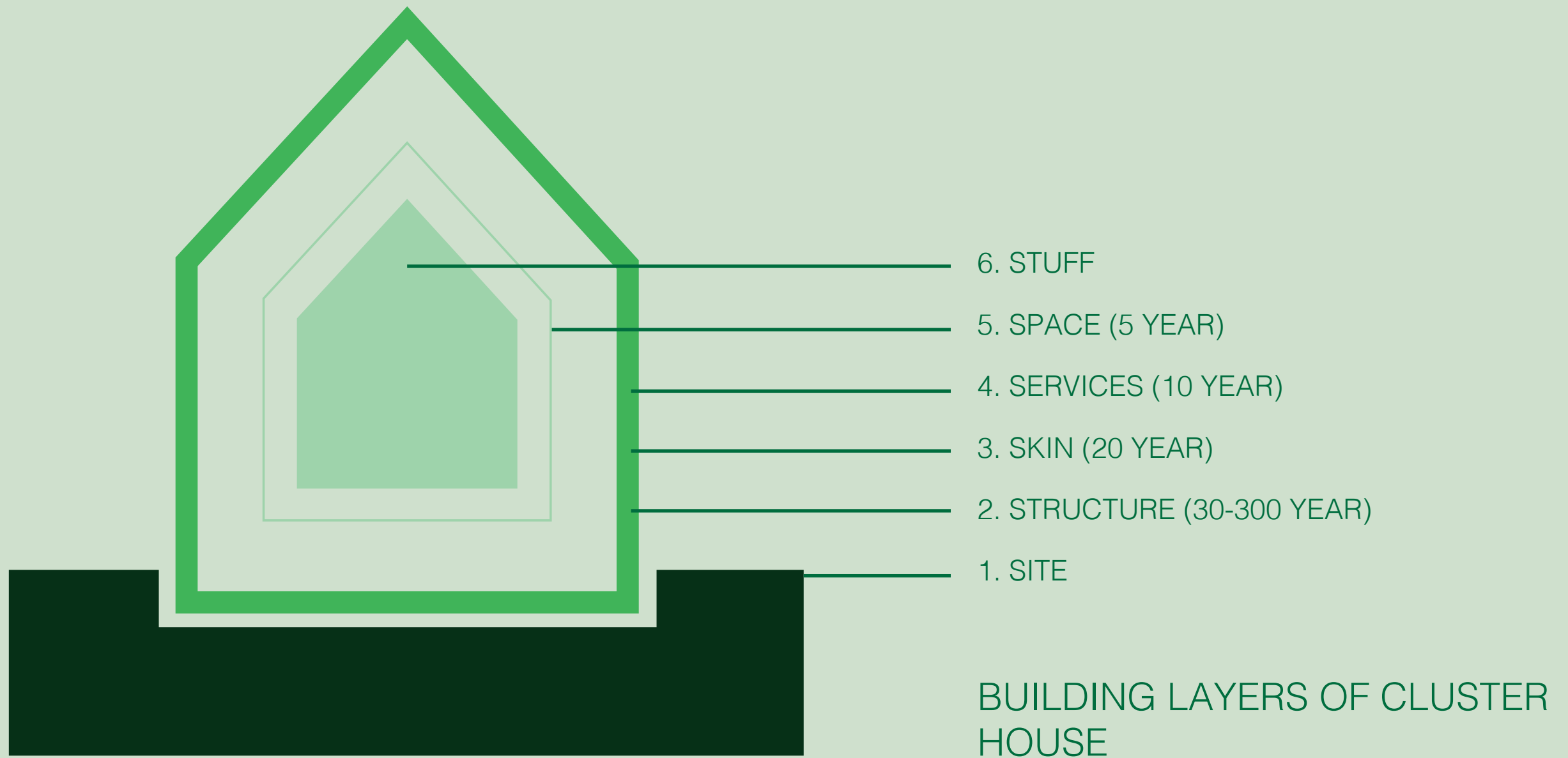
4 Aanbrengen van leidingen, elektra en dakconstructie

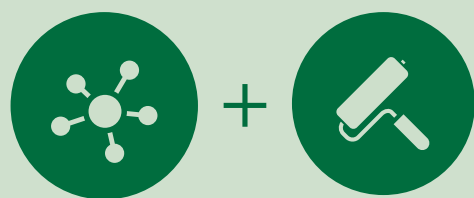


5 De gehele gevel en alle bouwlagen worden aan elkaar gestuced



CONSTRUCTIE METHODE (BUILDING LAYERS)





BOUWPROCES + KWALITEITSWAARBORGING / LEVENSDUUR



CE ASSESSMENT OF HOUSING CLUSTER COSMO ESTATE



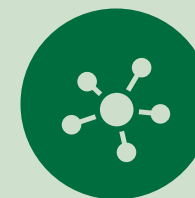
MEEST GEBRUIKTE
MATERIAAL IS
BAKSTEEN EN BETON



GESLOTEN
ARCHITECTUUR DUS
AFHANKELIJK VAN DE
AIRCO. 30% VAN HET
ENERGIEGEBRUIK



ALLE BOUWLAGEN ZIJN
AAN ELKAAR GEPLAKT
EN GESTUUKT



ONTWIKKELAARS
DOEN GEEN
KWALITEITS CONTROLE
TIJDENS
BOUWPROCESS

3. DESIGN

BANDUNG, INDONESIA

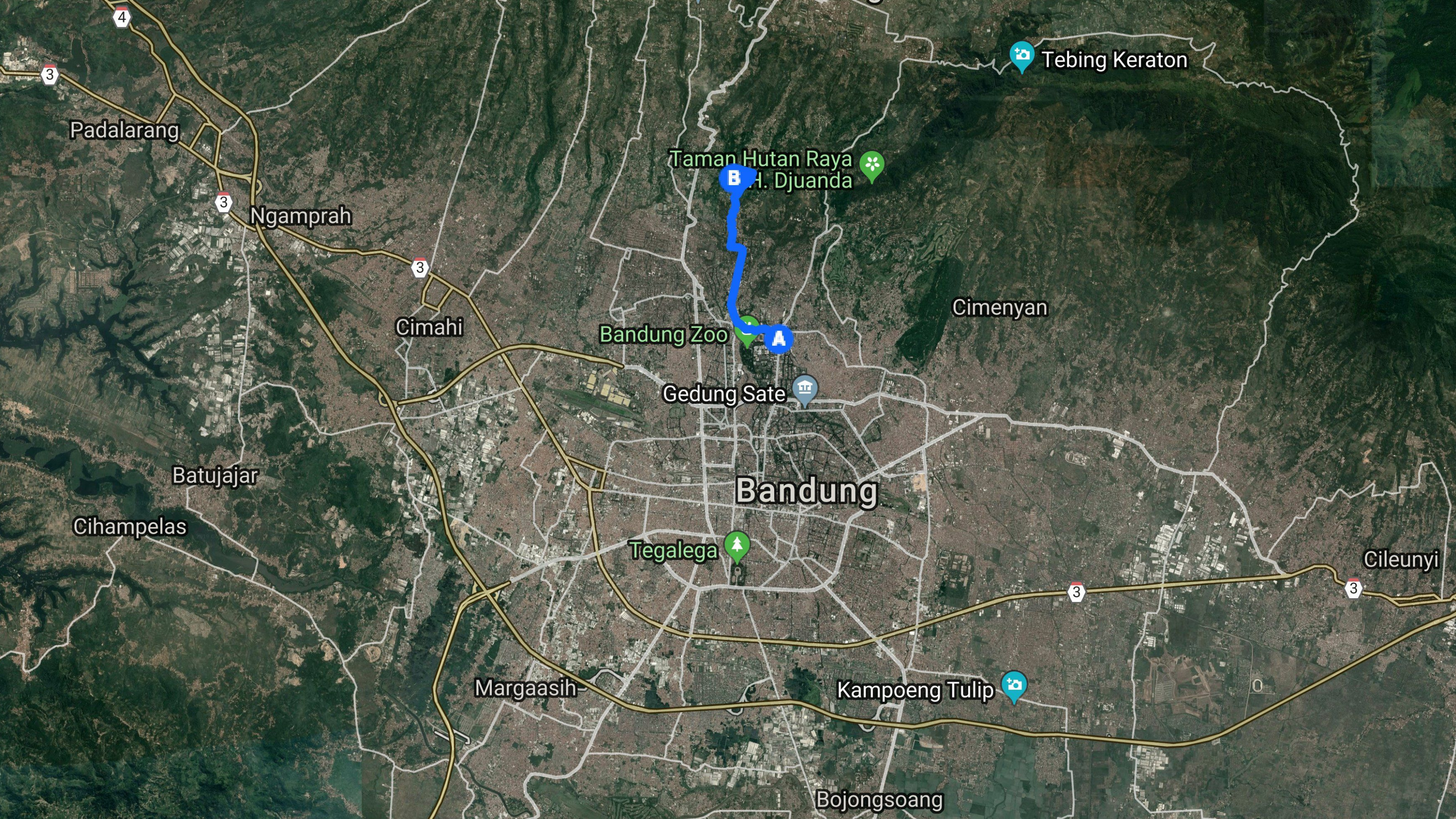


JAVA, INDONESIA

BANDUNG



JAKARTA



Tebing Keraton

Padalarang

Ngamprah

Taman Hutan Raya
H. Djuanda

Cimahi

Bandung Zoo

Cimenyan

Gedung Sate

Bandung

Batujajar

Cihampelas

Tegalega

Cileunyi

Margaasih

Kampoeng Tulip

Bojongsoang



Al-Uswatun
Hasanah Mosque

Andar Barokah Store

Waroeng Seblak T

Warbhot

Warung Jambu
mother Noneng

Toko Rohana

SMP Putra Siliwangi

Warung Neng
Tuti Damayanti

Warung Boank

Resina Co

Masjid Al Hidayah Rw 02

Mesjid Babus Salam

PT. CKM (workshop
industries)

Warung Pak Abas

Jl. Mahogani

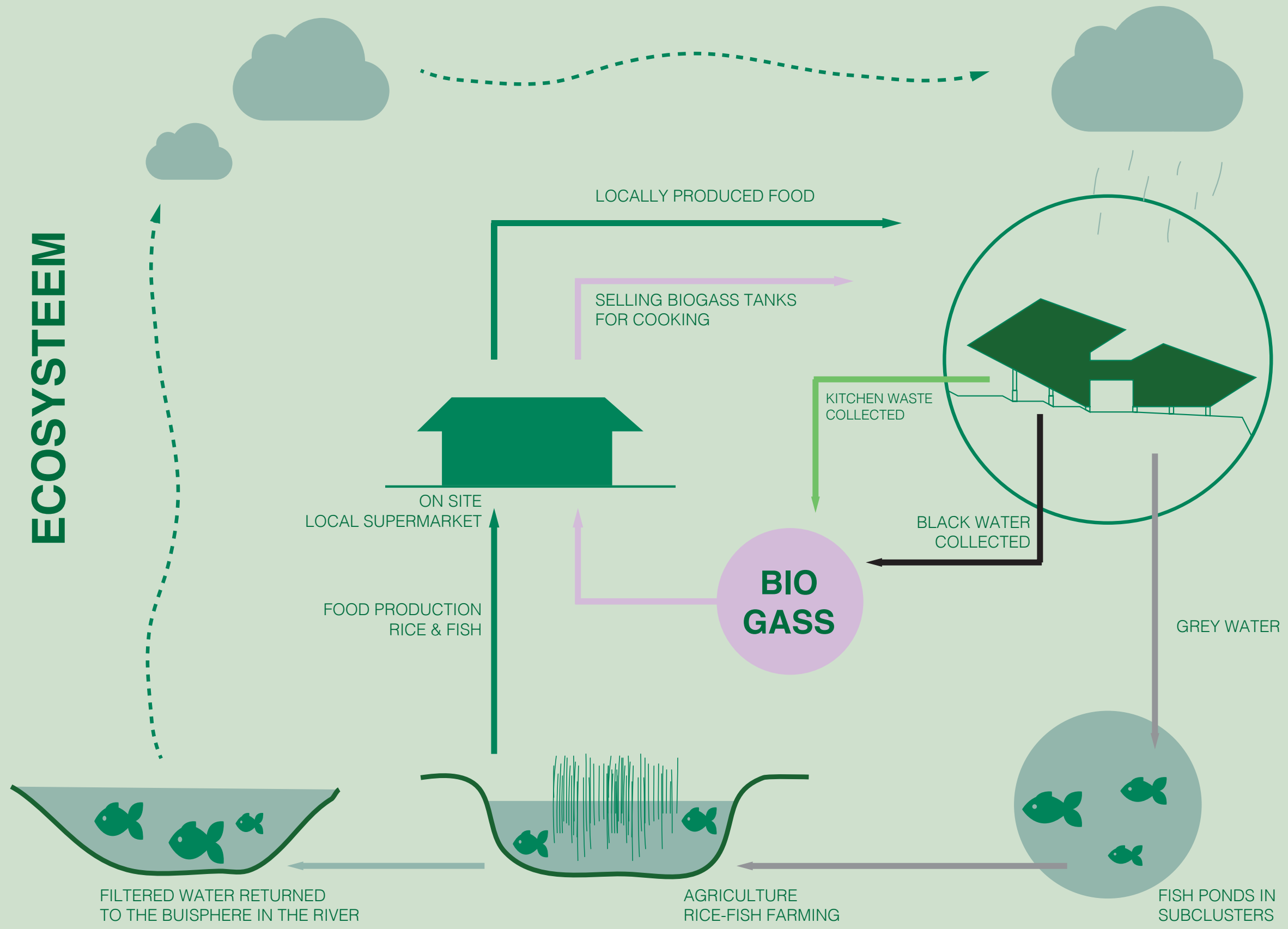
Jl. Mahogani

Warung Nasi Ijah

Jl. Mahogani

Dimsum

ECOSYSTEM



ARCHITECTURAL DESIGN

**GESTAPELDE WONINGBOUW
6 X 'TYPE 45m²' APPARTEMENTEN
VOOR DE STARTES EN JONGE GEZINNEN
MET DE WENS IN EEN DUURZAME WIJK TE WILLEN
WONEN.**

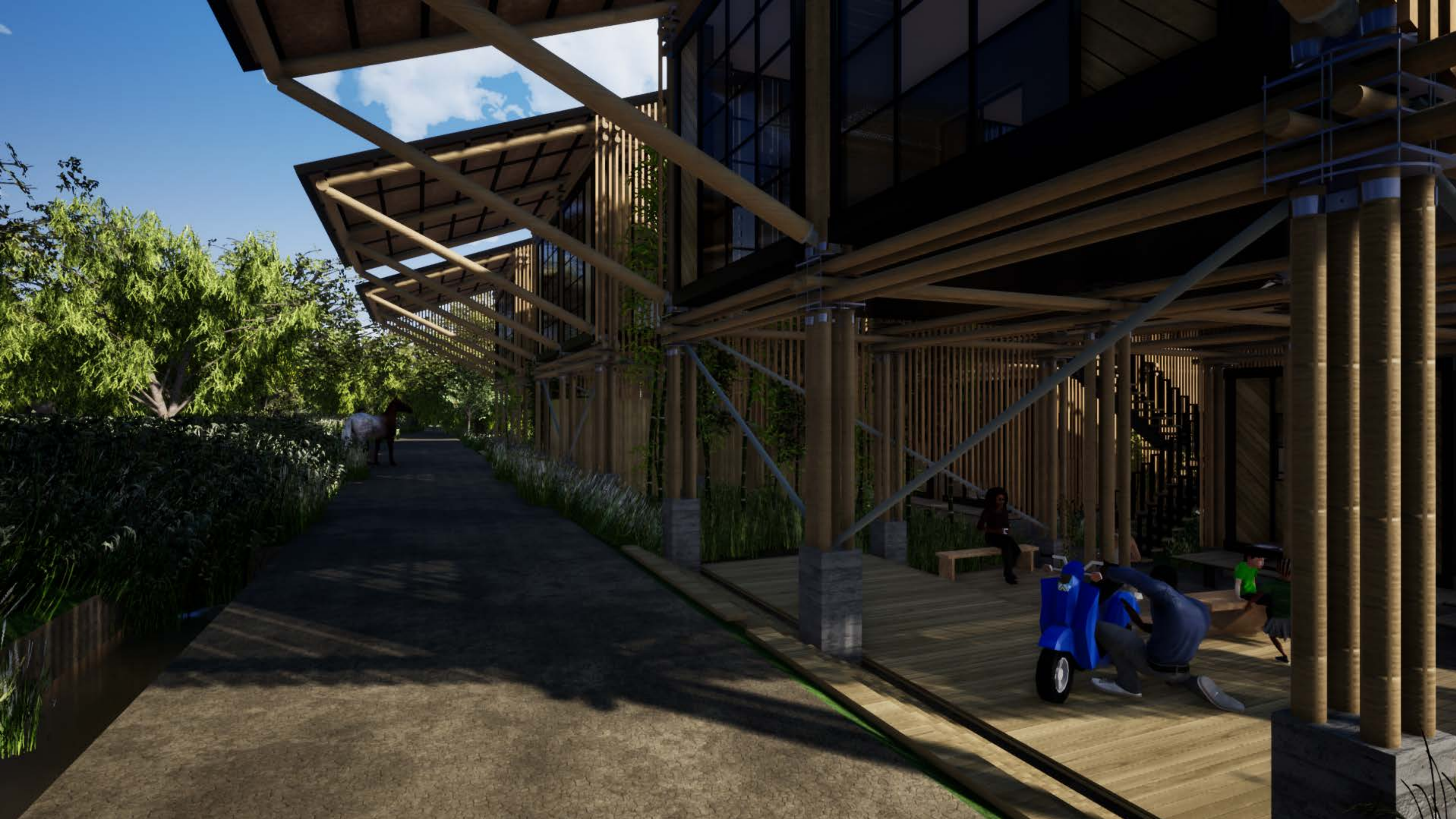


















KEY-AMBITIONS



**MINIMIZING ITS
IMPACT ON THE SITE,
BUILDING LIGHT**



BETON EN BAKSTEEN
VERVANGEN MET
HERNIEUWBARE
MATERIALEN



DE AIRCO VERBANNEN
VIA PASSIEVE KOEL
STRATEGIEEN



IN DUIDELIJKE UIT
ELKAAR TE HALEN
BOUWLAGEN BOUWEN



STANDARDIZATIE VAN
BOUWMETHODIEK
VOOR MASSABOUW

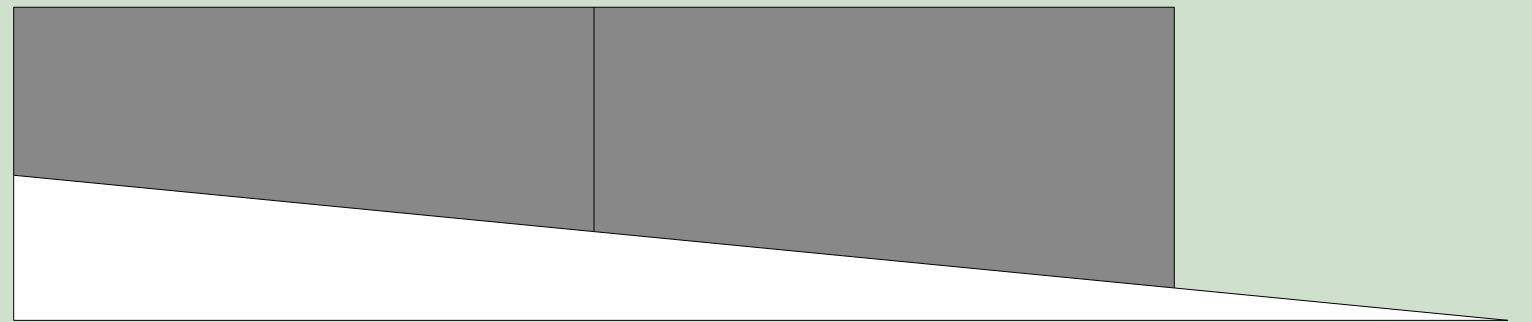
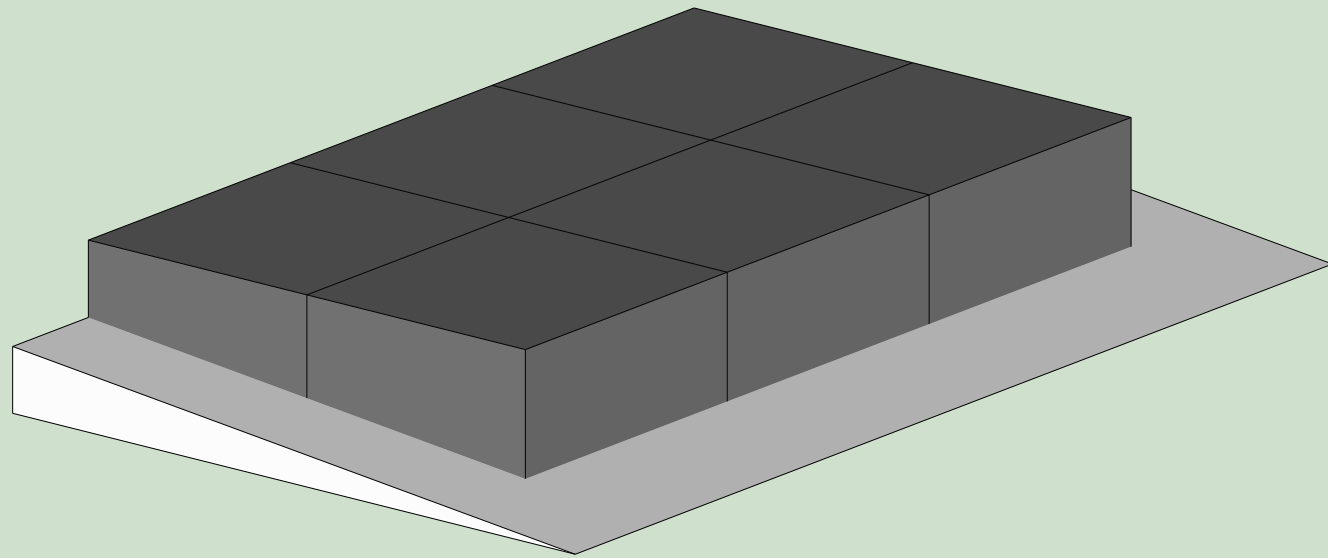


BANEN VOOR DE
OMGEVING CREEREN
VIA BOUWMATERIAAL
PRODUCTIE

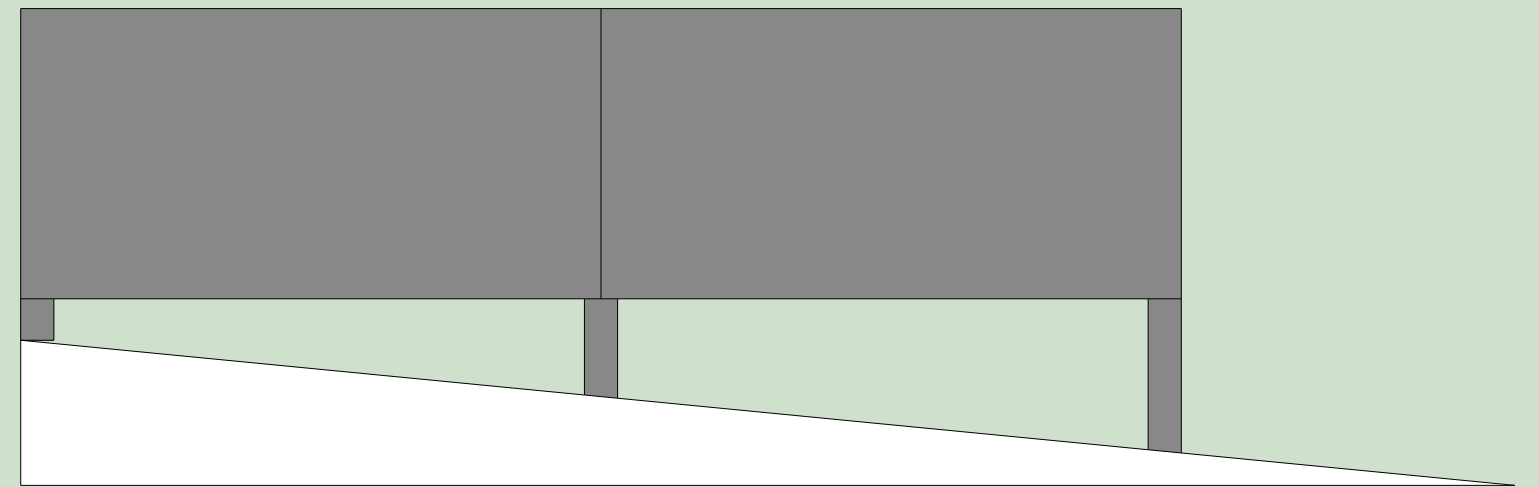
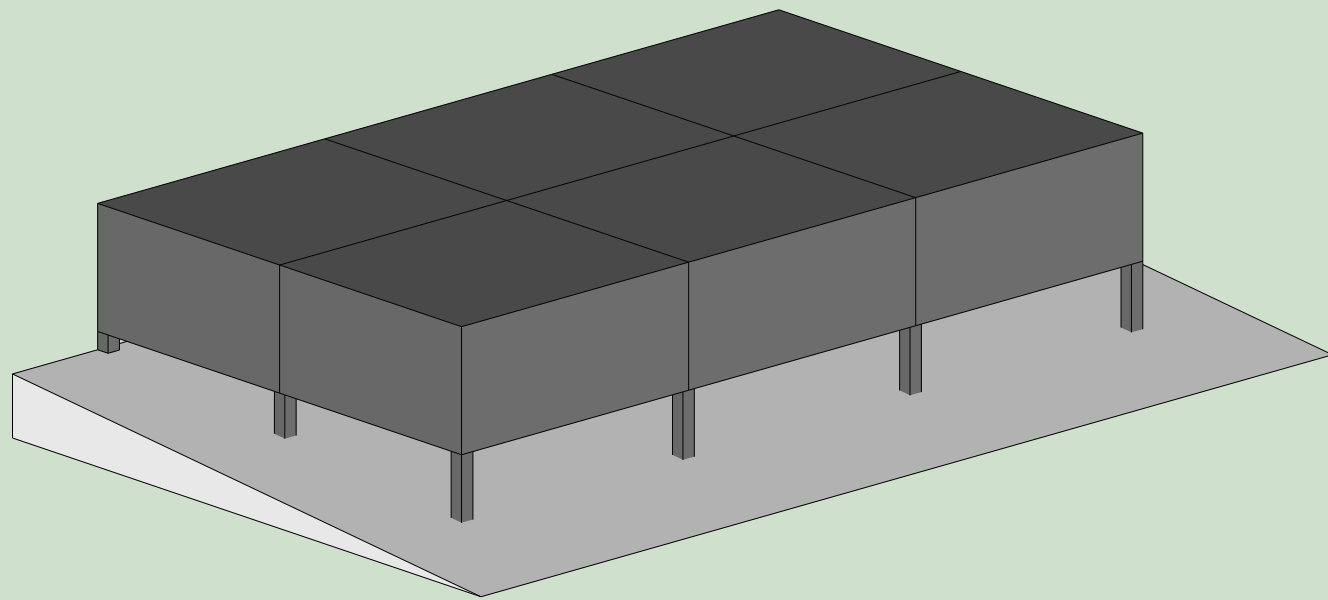


BESCHADUWDE
RUITES CREEREN
VOOR SOCIALE
INTERACTIE BINNEN
HET BLOK

DESIGN PROCESS



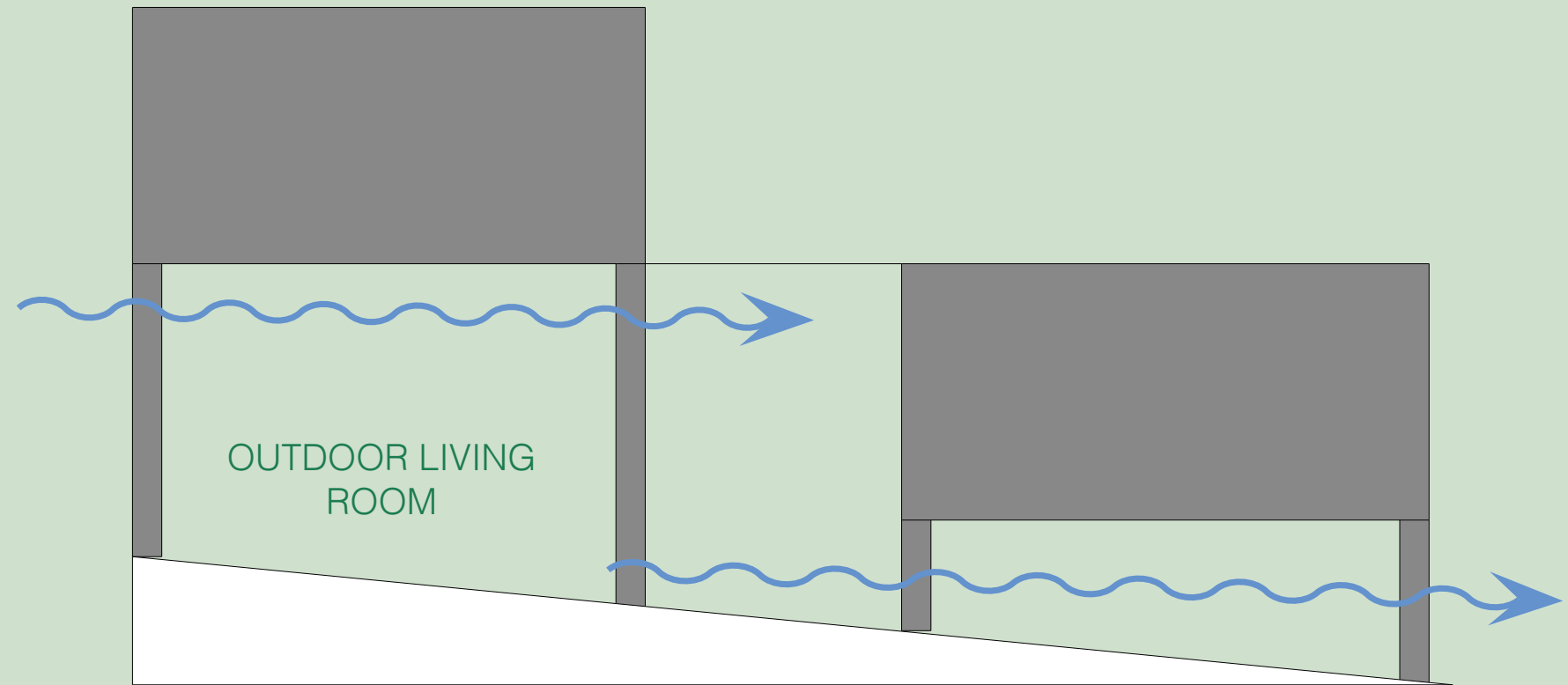
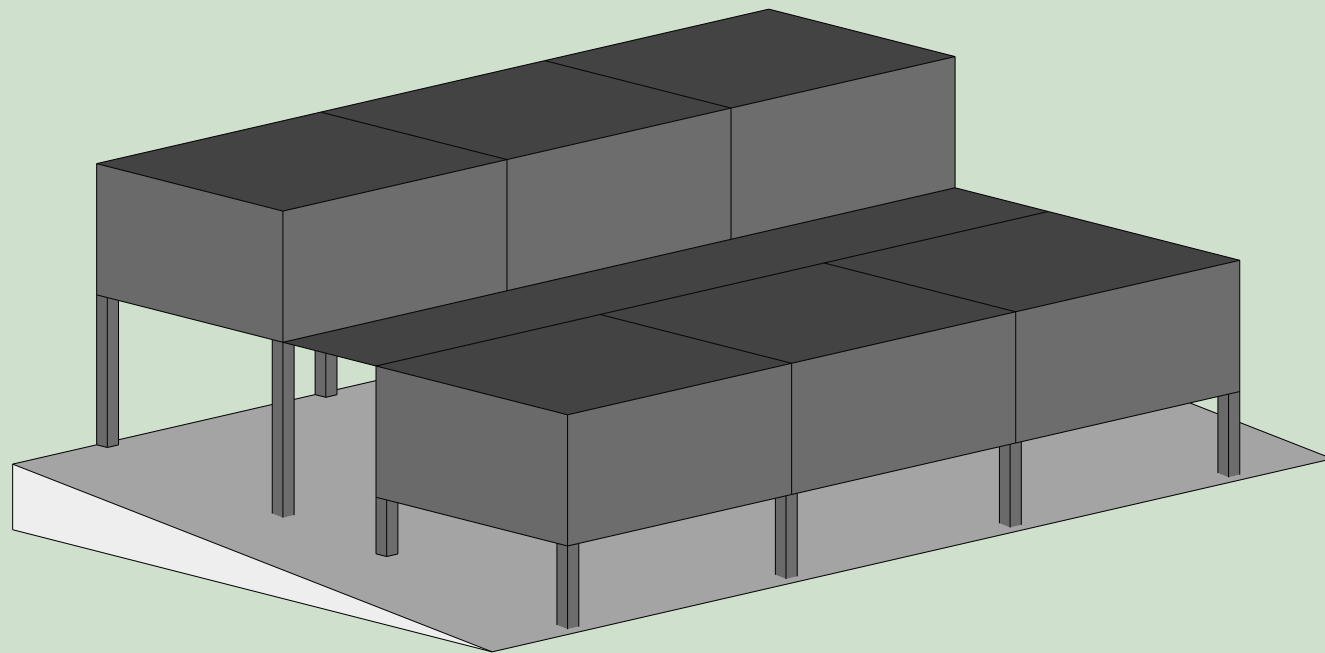
DESIGN PROCESS



**MINIMIZING ITS
PHYSICAL IMPACT ON
THE SITE**



DESIGN PROCESS



PASSIEF KOELEN VIA
DE WIND DIE TREKT
OVER DE BERGKAM
RICHTING DE VALLEI.



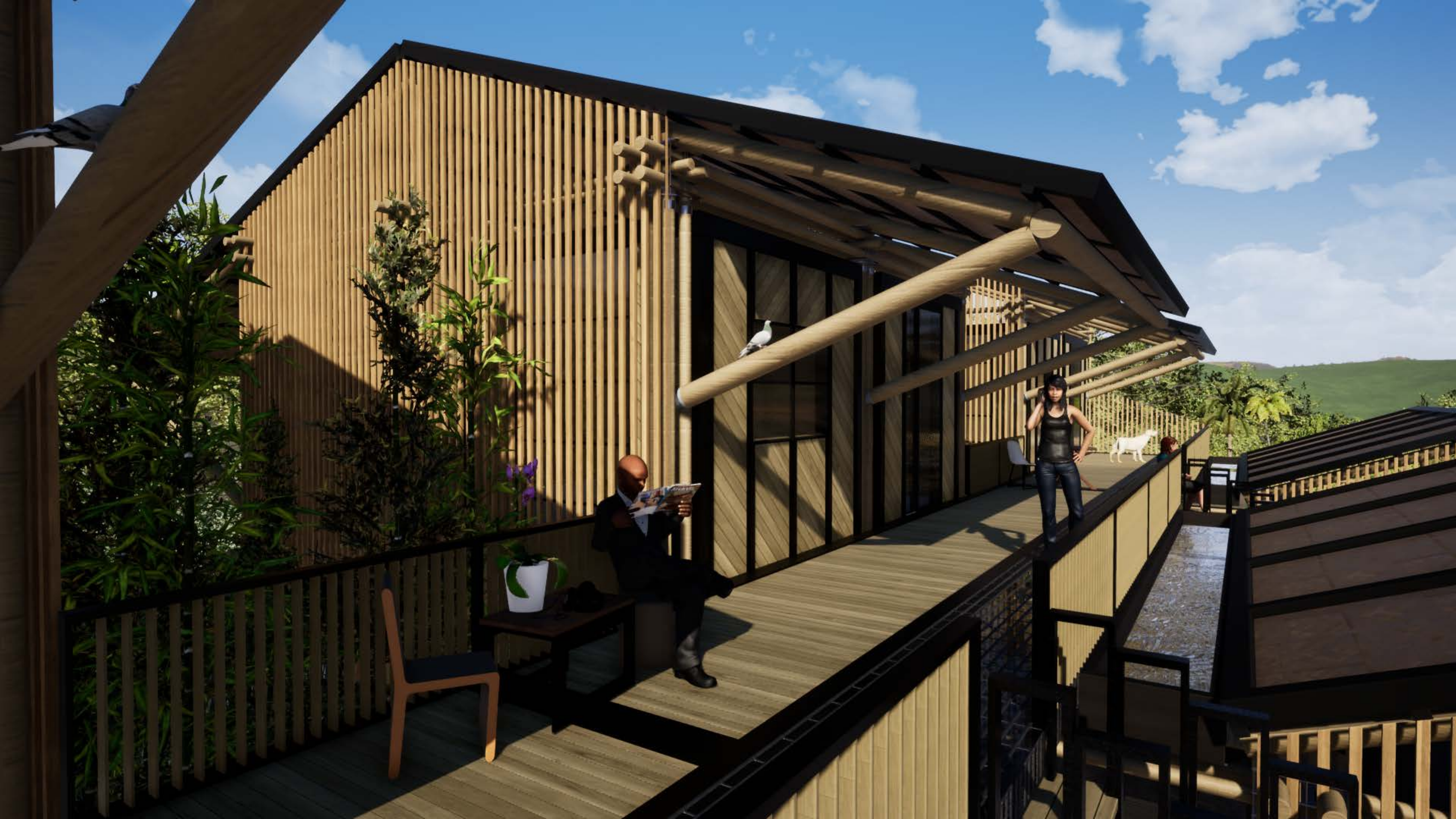
BESCHADUWDE
RUIMTES CREEREN
VOOR SOCIALE
INTERACTIE BINNEN
HET BLOK



BEIDE WONINGEN
UITZICHT GUNNEN

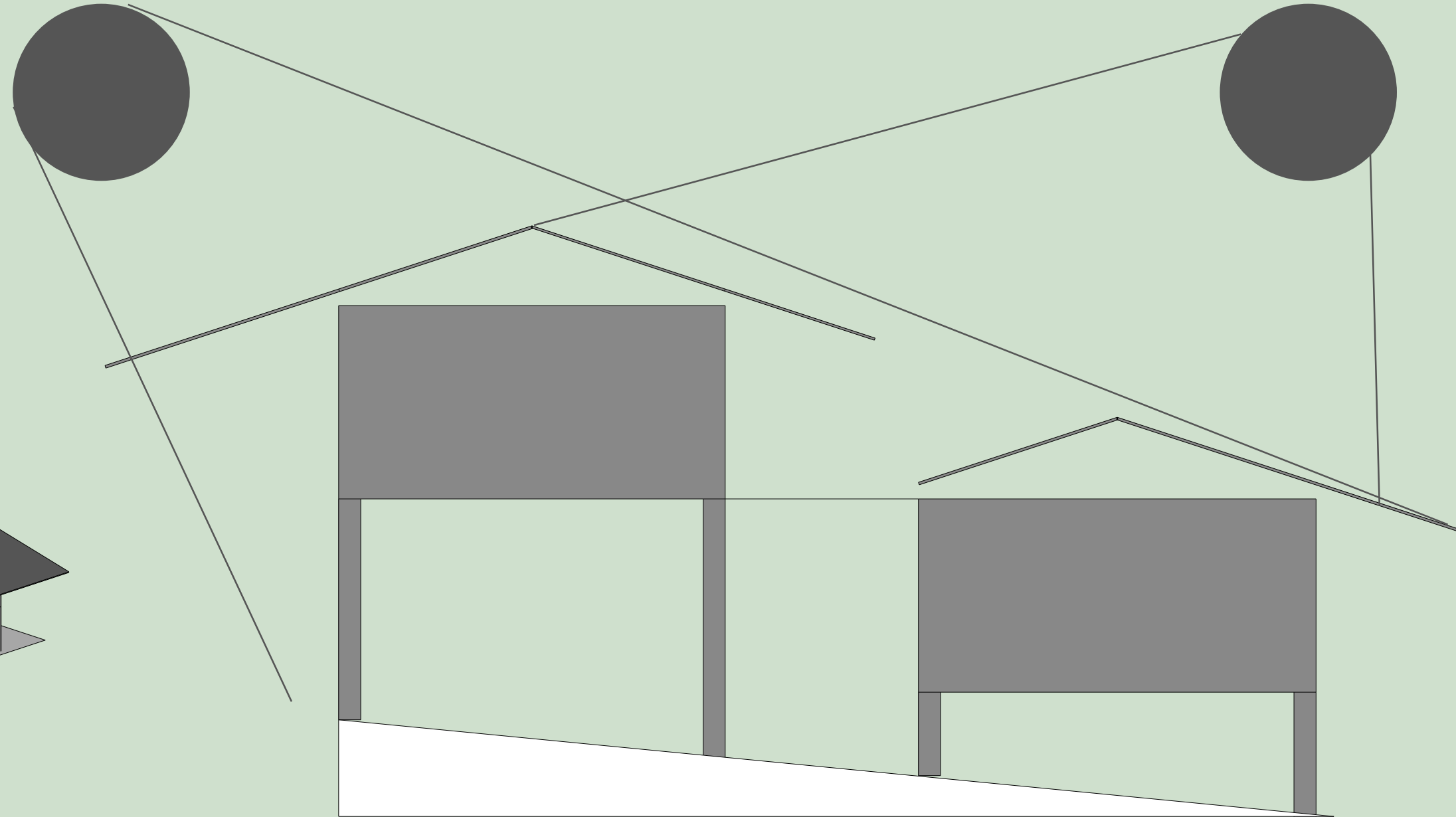
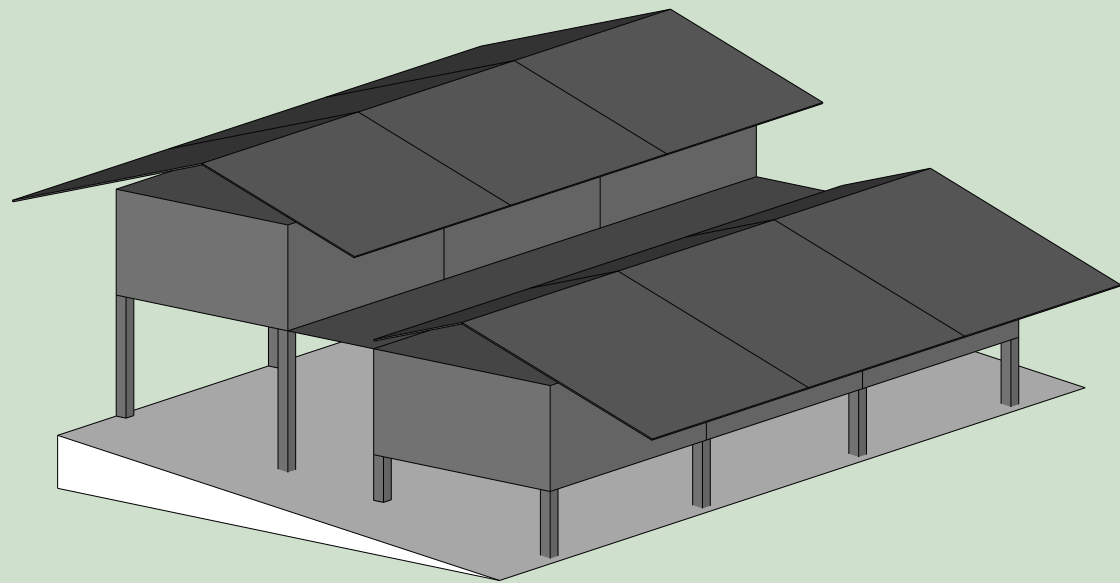






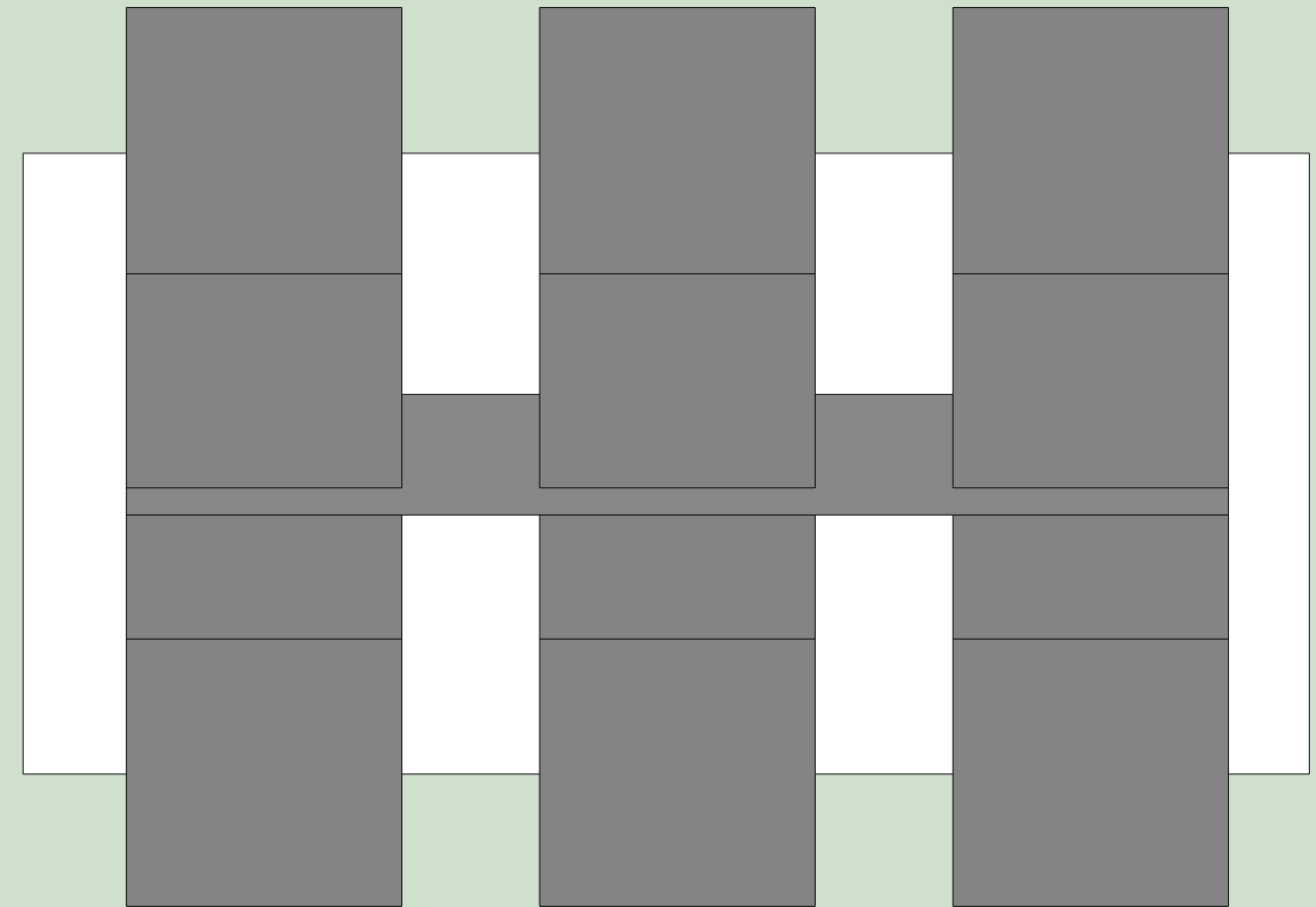
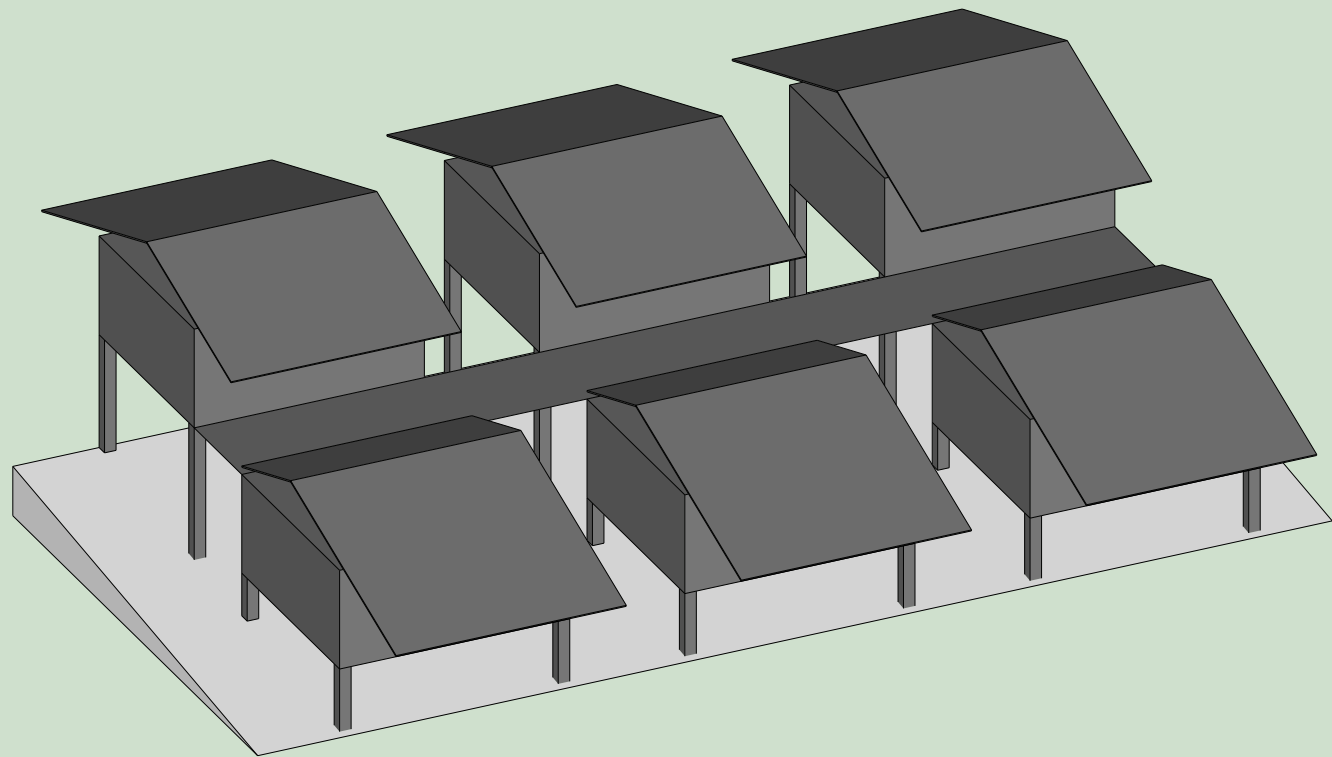


DESIGN PROCESS



BESCHERMEN
TEGEN DE HEETSTE
NOORDELIJKE EN
ZUIDELIJKE ZON

DESIGN PROCESS



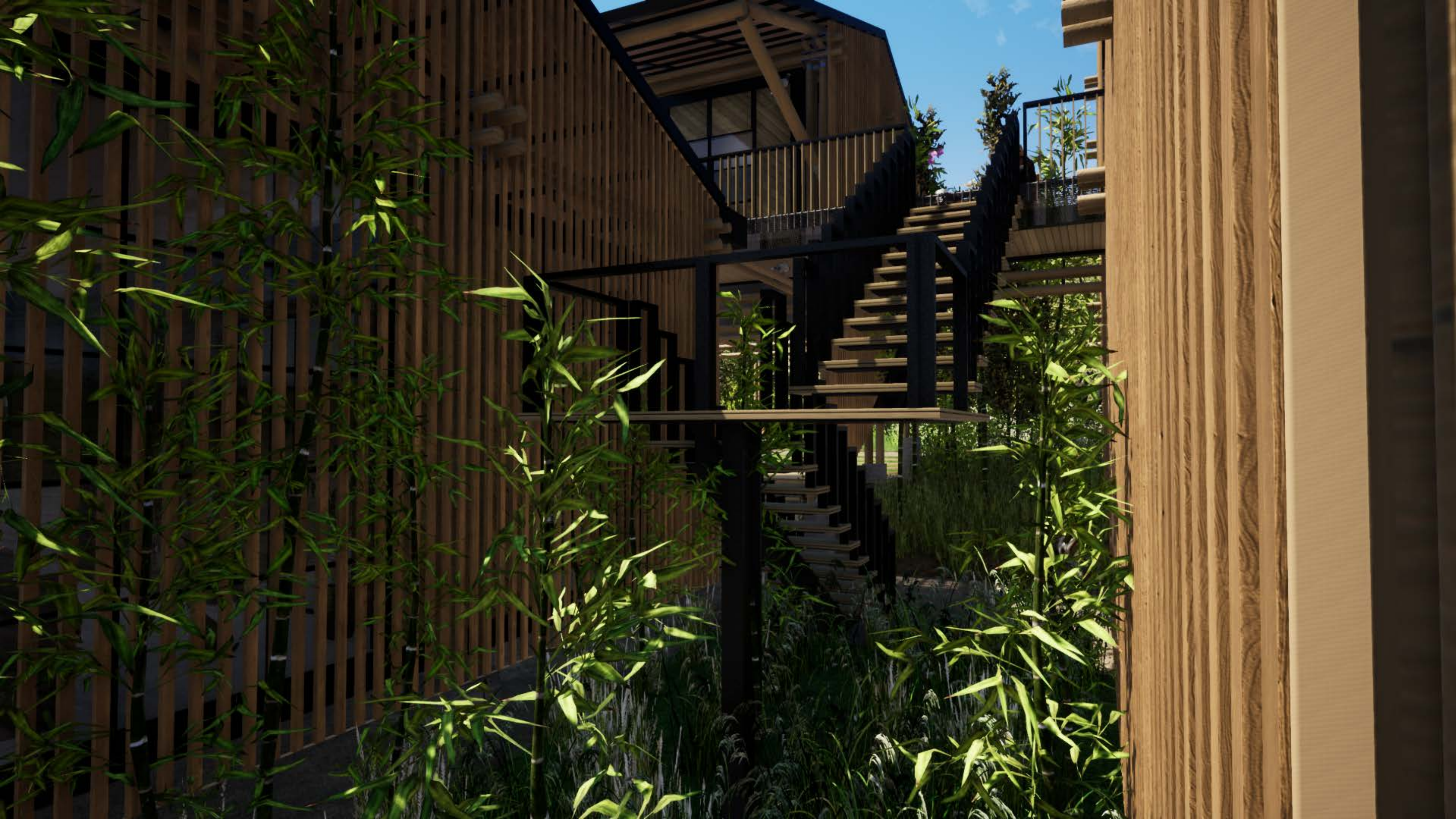
RUIMTE CREEREN
VOOR TUSSEN DE
WONINGEN VOOR
KRUISVENTILATIE



POREUSE STRUCTUUR
CREERT LICHTE
ARCHITECTUUR

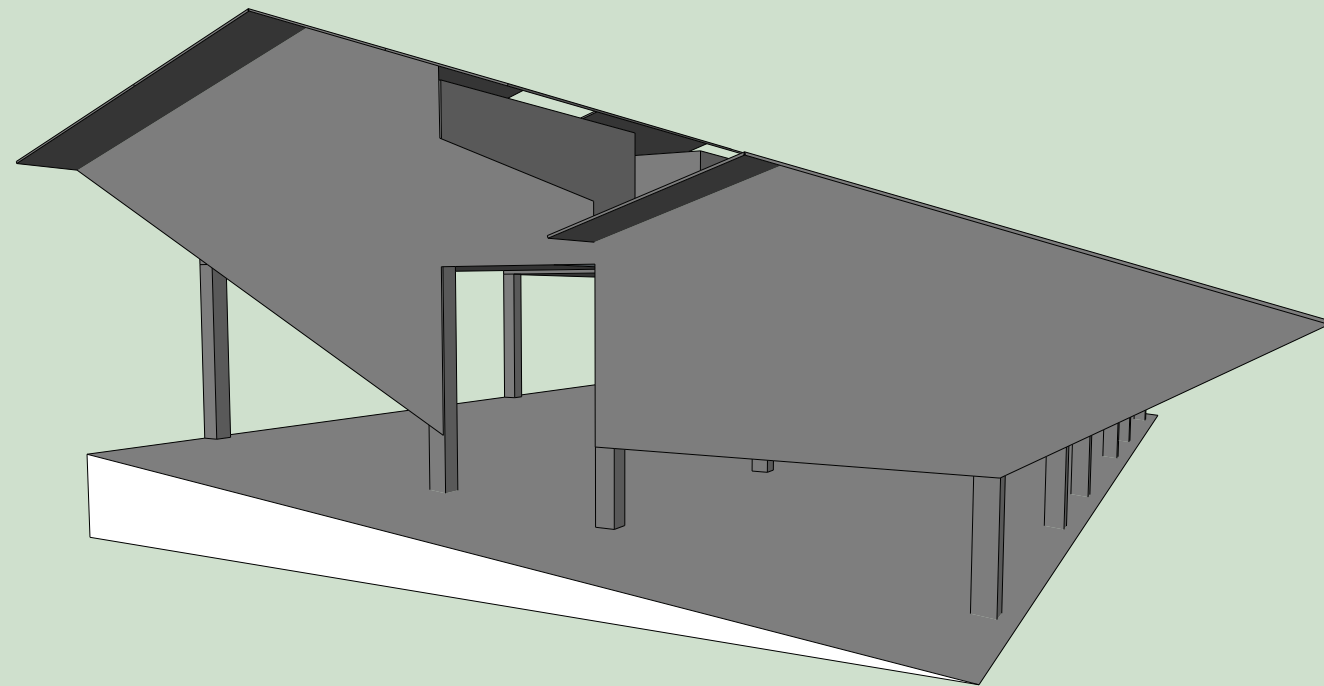


RUIMTES MAKEN
VOOR DE GROEI VAN
BAMBOE + FLORA
EN FAUNA MET HET
GEBOUW INTEGREREN





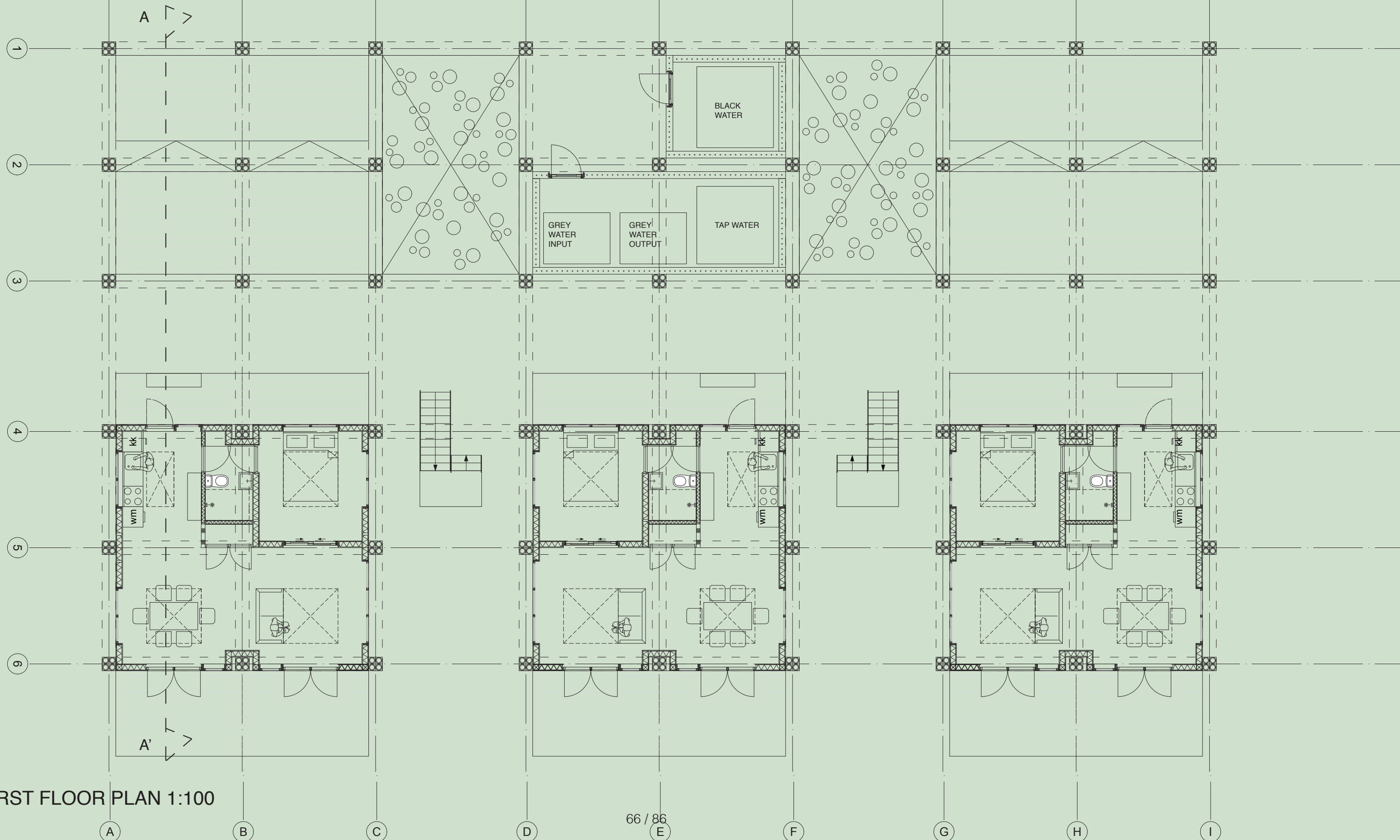
DESIGN PROCESS



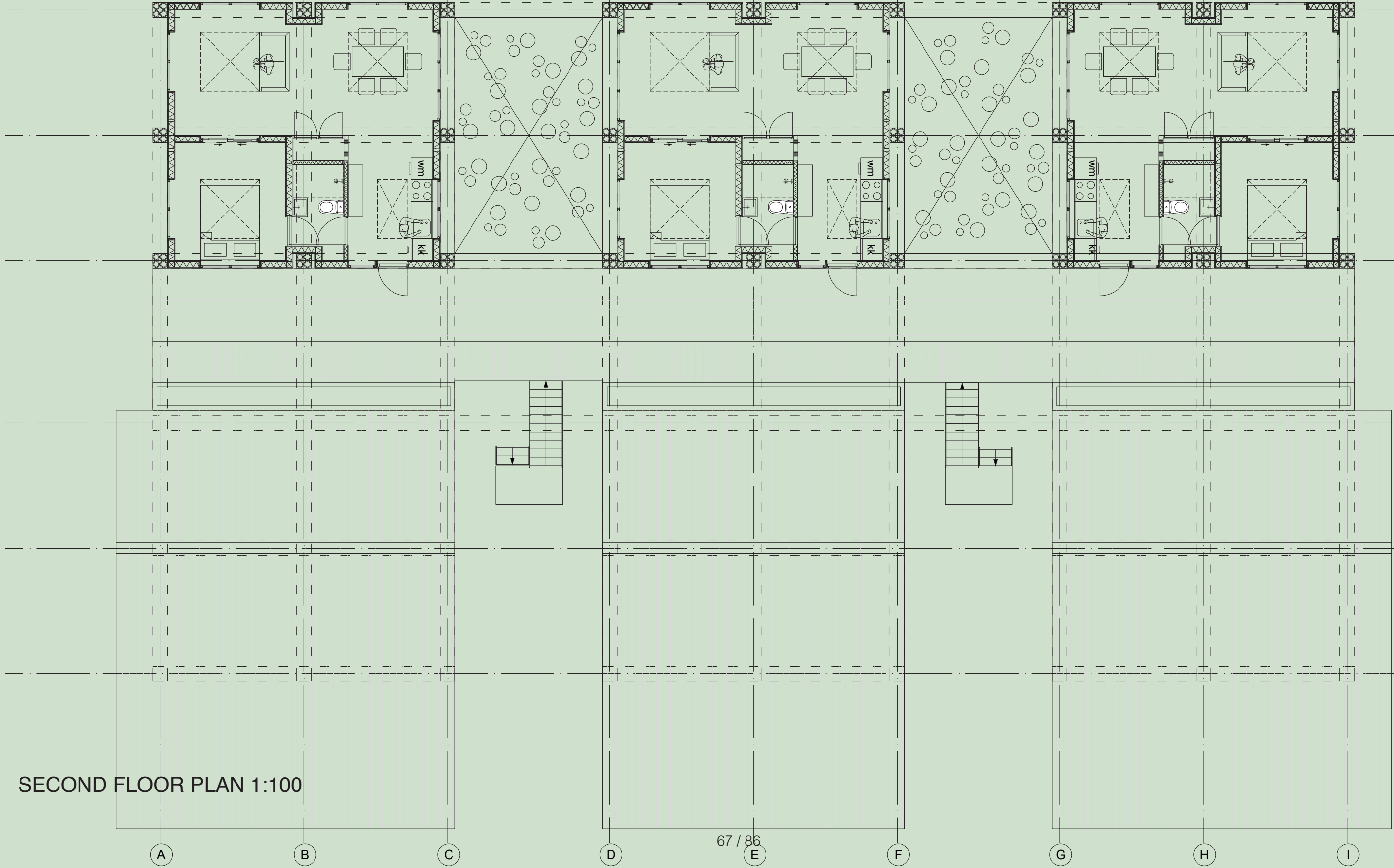
DE TWEDE FACADE BRENGT ZOWEL DE TWEE
WONINGEN ALS DE BUITENRUIMTES MET ELKAAR
SAMEN. TEVENS BRENGT DIT EEN SPEL TUSSEN
SCHADUW EN LICHT DOOR HET GEBOUW.





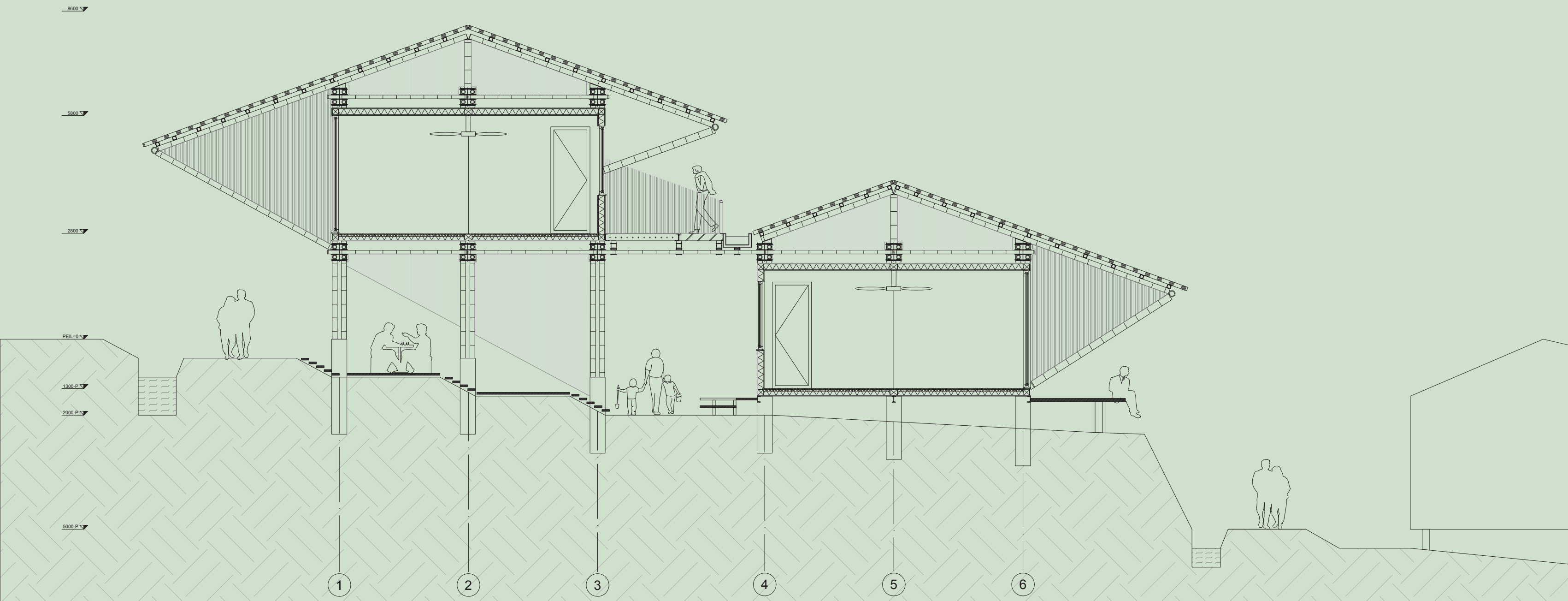


FIRST FLOOR PLAN 1:100



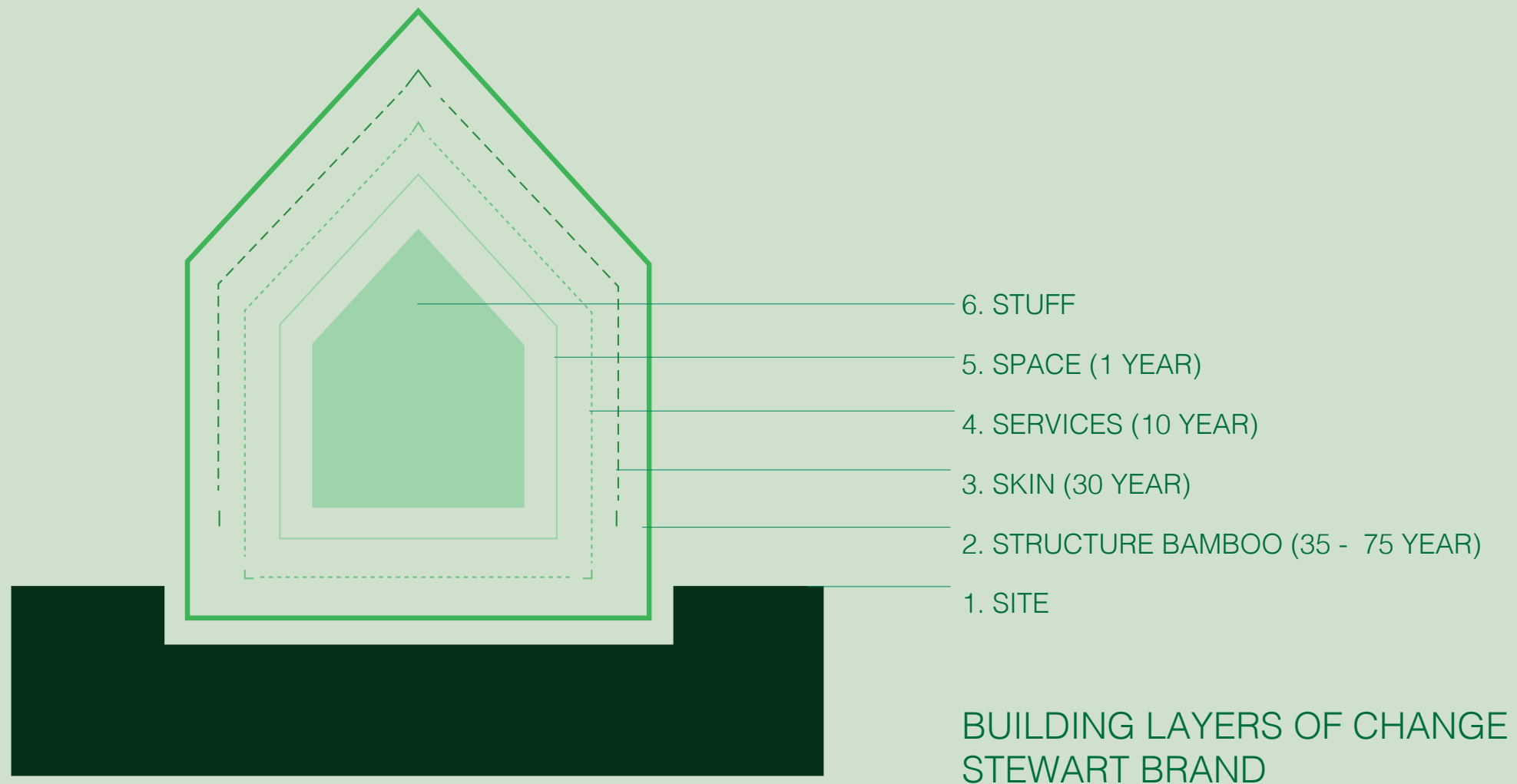
SECOND FLOOR PLAN 1:100

A B C D E F G H I



HOOFDGEDACHTE ACHTER DE CONSTRUCTIE

DESIGN FOR DISASSEMBLY





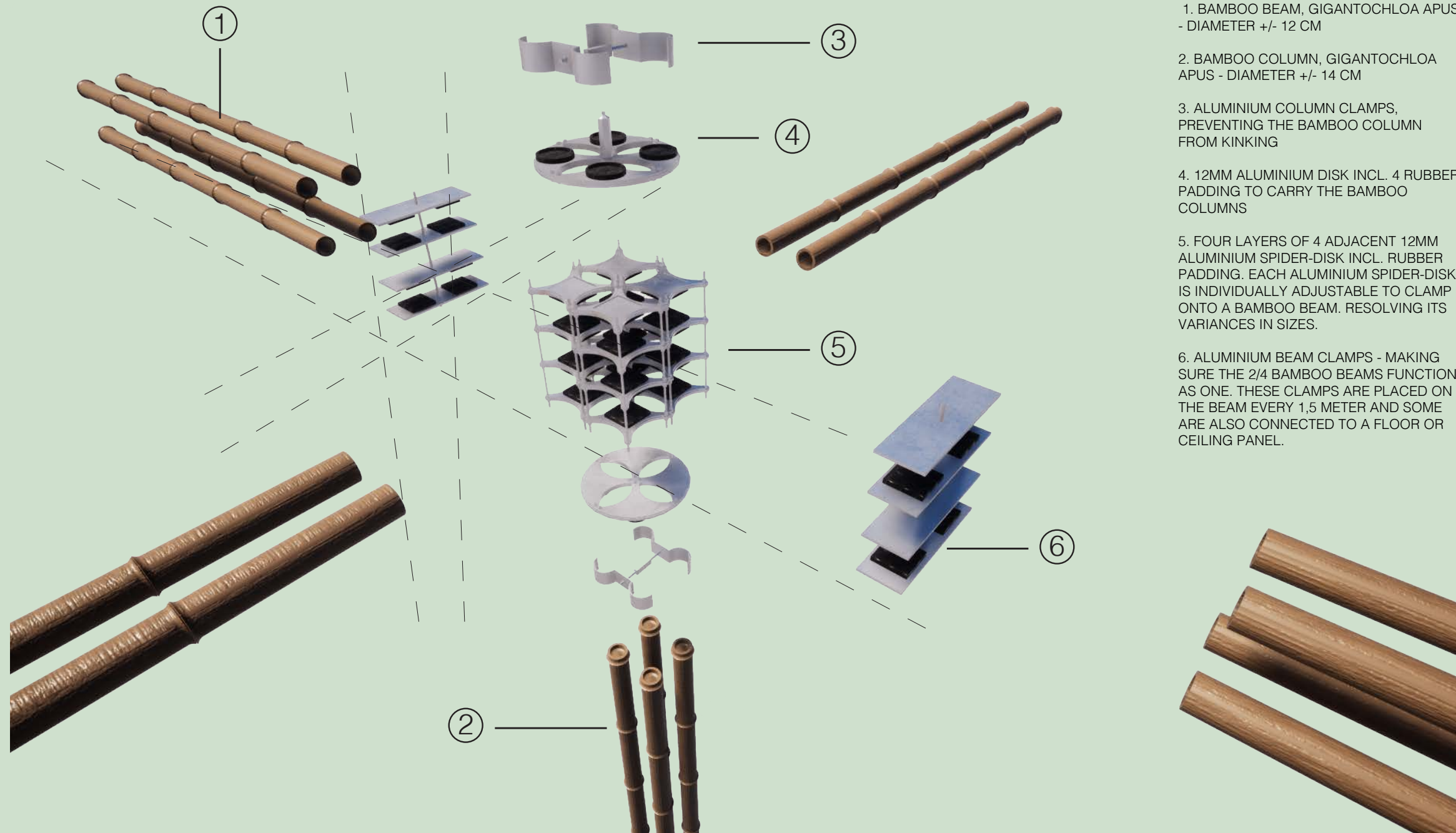




CONSTRUCTIE DETAIL 1



CONSTRUCTIE DETAIL 1



1. BAMBOO BEAM, GIGANTOCHLOA APUS
- DIAMETER +/- 12 CM

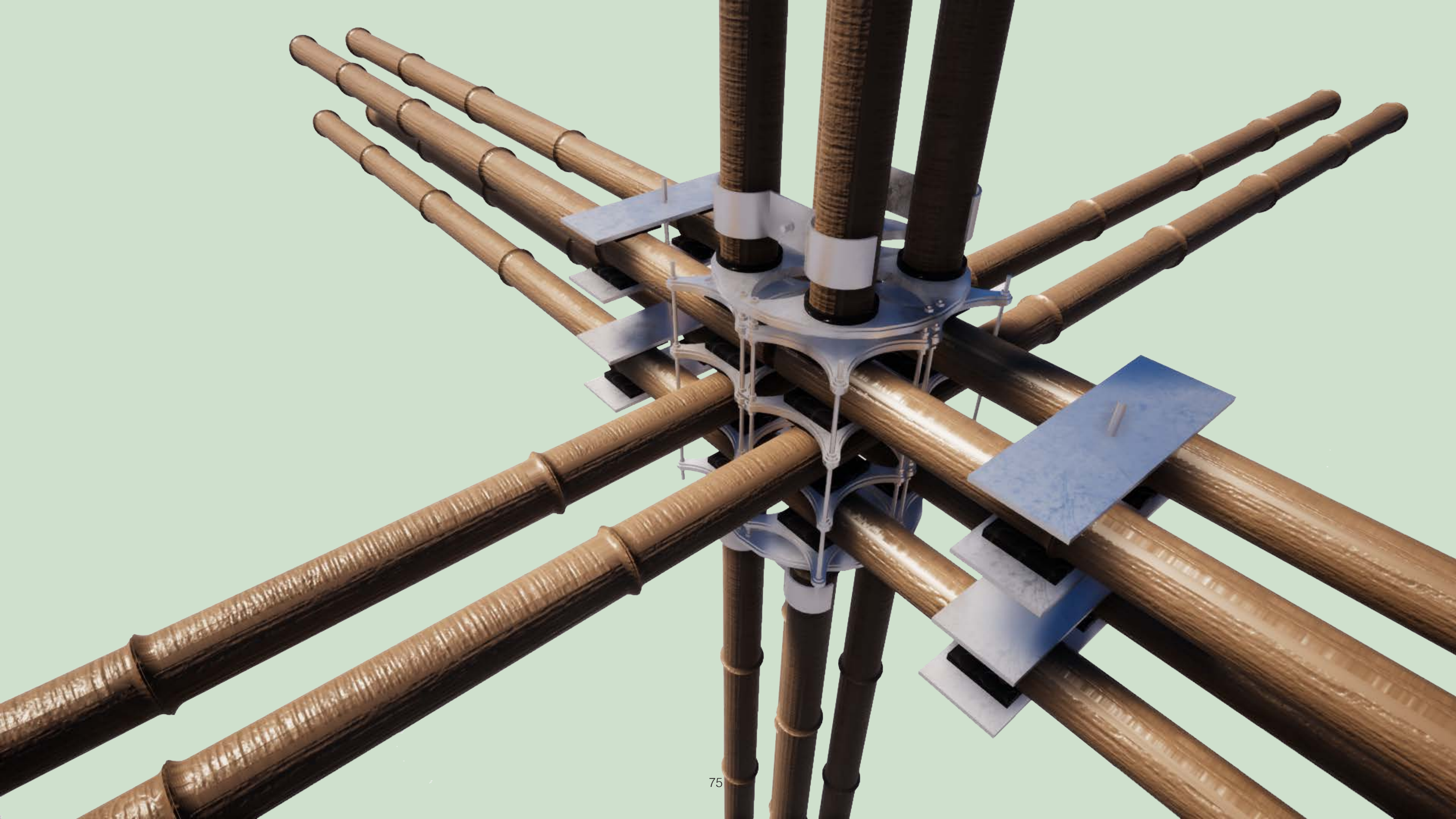
2. BAMBOO COLUMN, GIGANTOCHLOA APUS - DIAMETER +/- 14 CM

3. ALUMINIUM COLUMN CLAMPS, PREVENTING THE BAMBOO COLUMN FROM KINKING

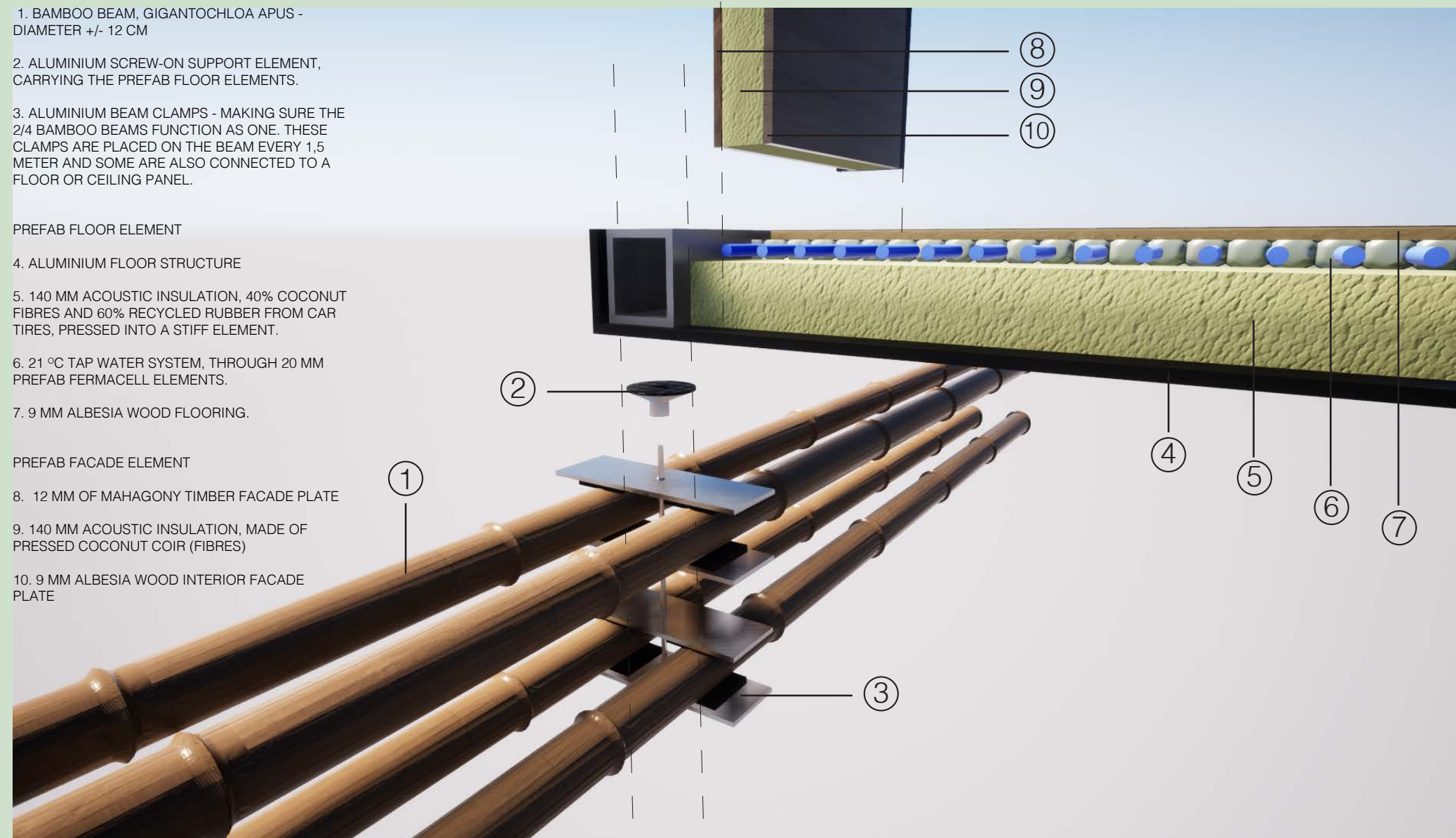
4. 12MM ALUMINIUM DISK INCL. 4 RUBBER PADDING TO CARRY THE BAMBOO COLUMNS

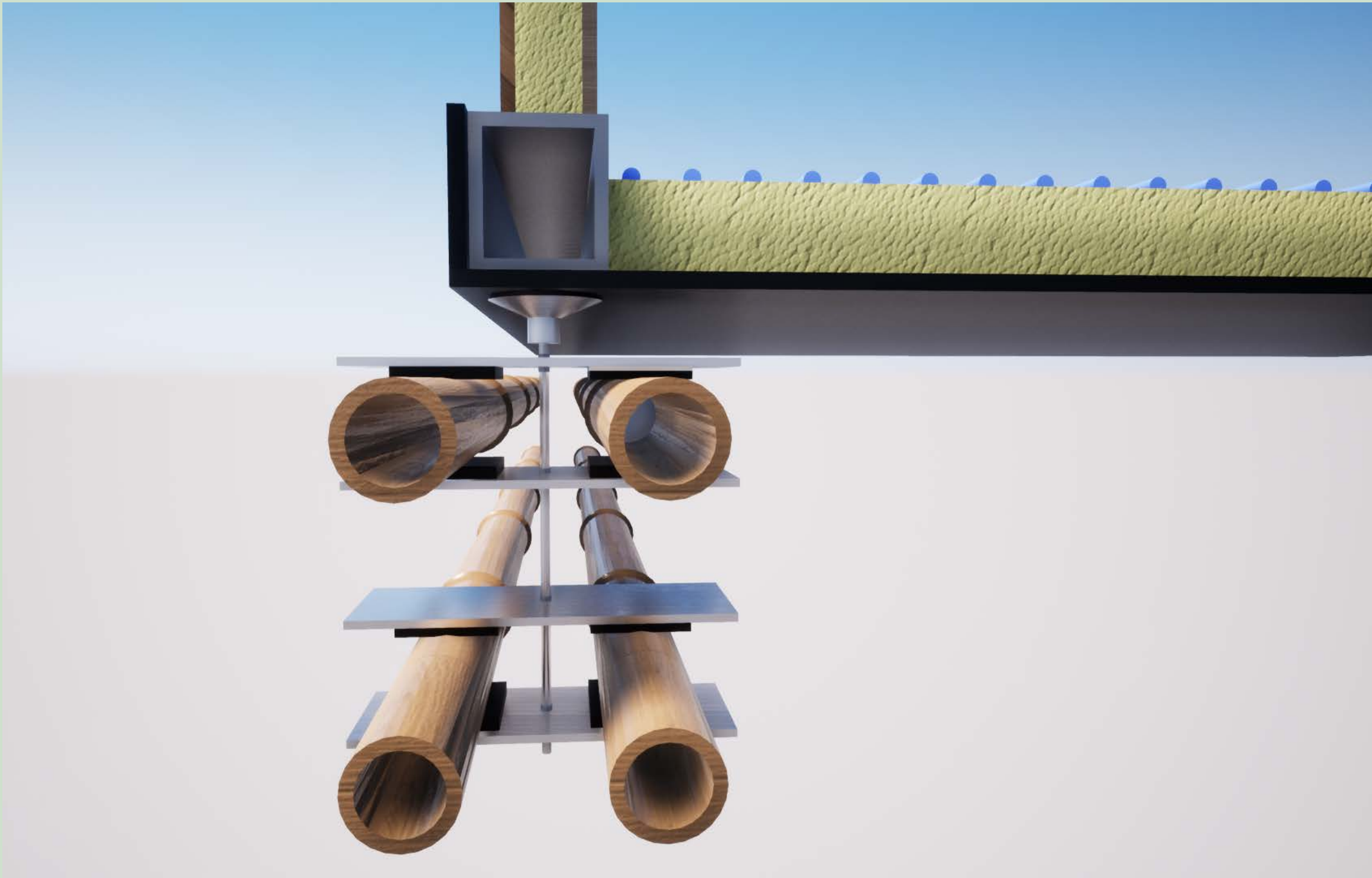
5. FOUR LAYERS OF 4 ADJACENT 12MM ALUMINIUM SPIDER-DISK INCL. RUBBER PADDING. EACH ALUMINIUM SPIDER-DISK IS INDIVIDUALLY ADJUSTABLE TO CLAMP ONTO A BAMBOO BEAM. RESOLVING ITS VARIANCES IN SIZES.

6. ALUMINIUM BEAM CLAMPS - MAKING SURE THE 2/4 BAMBOO BEAMS FUNCTION AS ONE. THESE CLAMPS ARE PLACED ON THE BEAM EVERY 1,5 METER AND SOME ARE ALSO CONNECTED TO A FLOOR OR CEILING PANEL.



CONSTRUCTIE-VLOER DETAIL











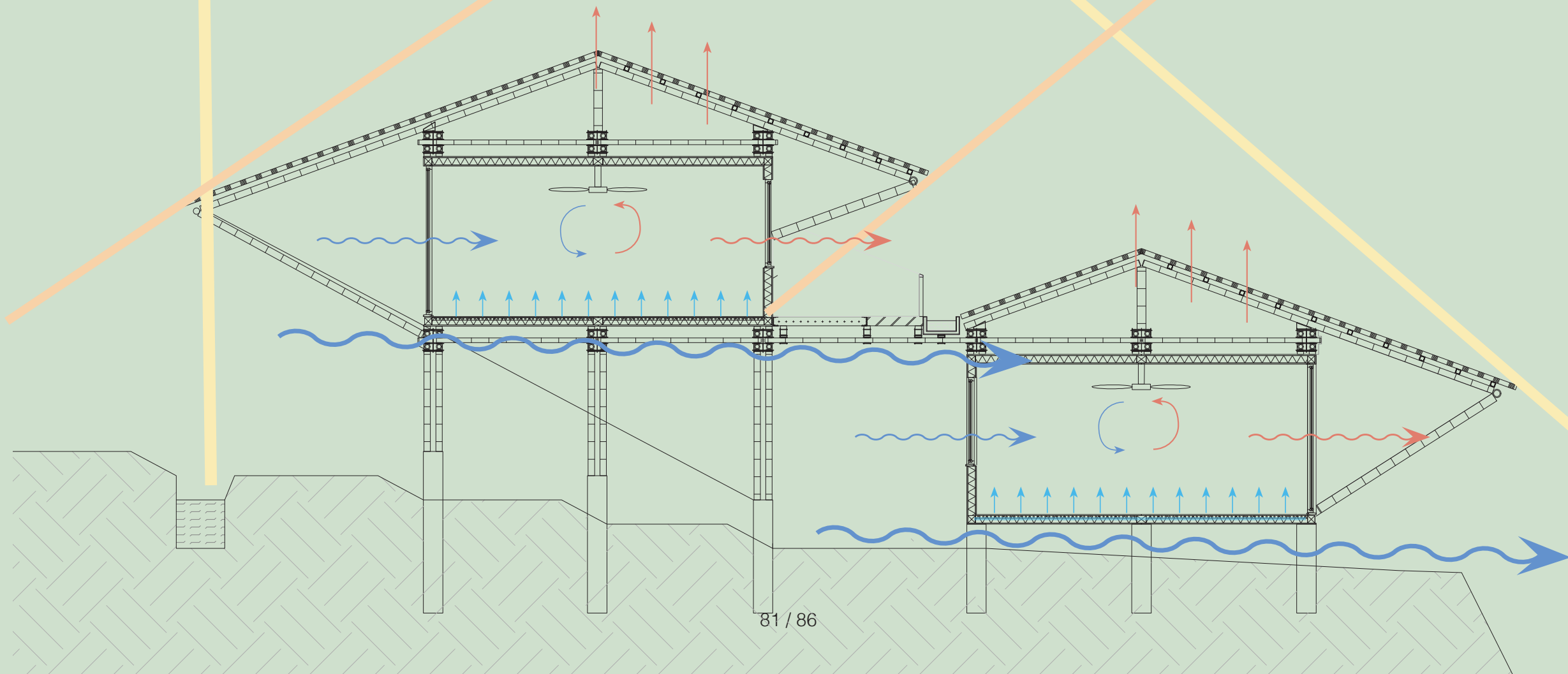
PASSIEF KLIMAAT STRATEGIE

SUMMER
NORTH-SUN

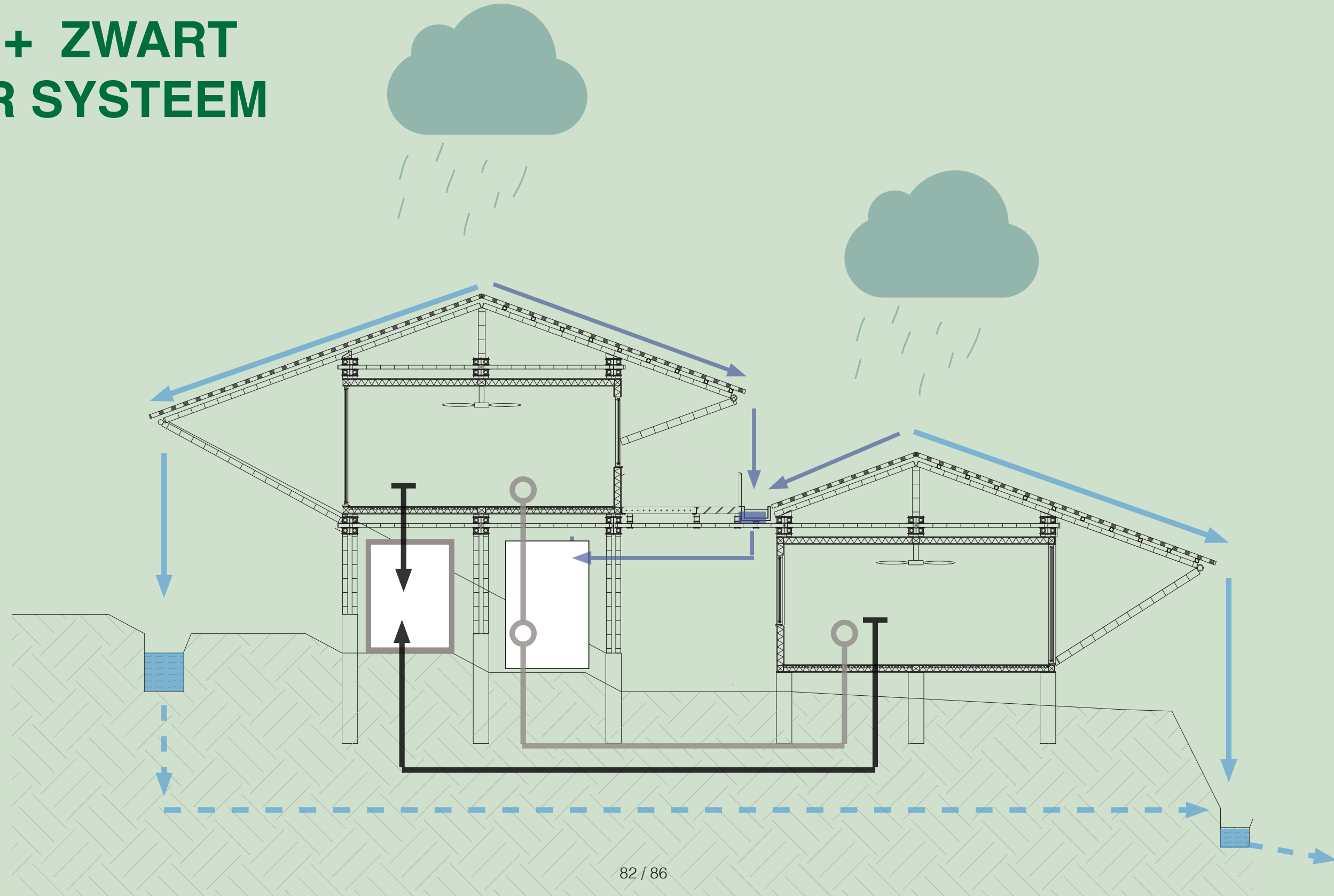
8° IN
TROPIC OF
CANCER

WINTER
SOUTH-SUN

8° IN
TROPIC OF
CAPRICORN

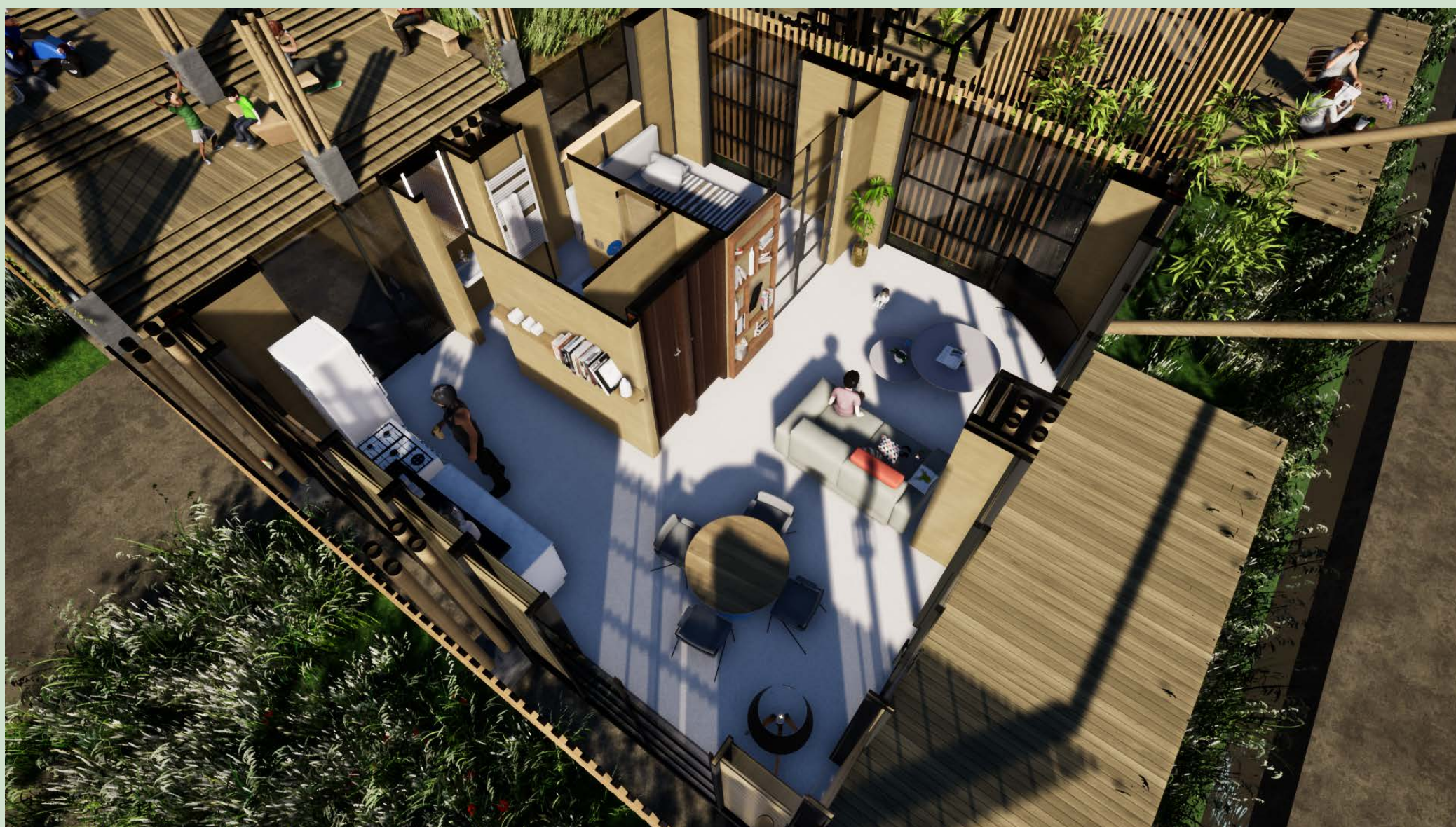


GRIJS + ZWART WATER SYSTEEM





CIRUCLAIR BEDRIJFSMODEL HOE KOM IK HIER TE WONEN...?



**ALS BEWONER KOOP JE EEN
WOONPLEK IN DE COMMUNITY
AAN DE HAND VAN ERFPACHT.**

**DE BOUWMATERIALEN EN
PROUCTEN WORDEN GELEASED
BIJ DE ONTWIKKELAAR.**

**ZO BLIJFT DE
VERANTWOORDELIJKHEID
VOOR HET ONDERHOUD EN HET
AFHANDELEN VAN MATERIALEN
NA HUN LEVENSDUUR BIJ DE
ONTWIKKELAAR.**

GOAL WAS

TO PROPOSE A REDESIGN OF
THE INDONESIAN CLUSTER HOUSE
&
MINIMIZE ITS ENVIRONMENTAL IMPACT

FILMPJE!

IEDEREEN SUPER BEDANKT!