



THE *TRADITIONAL* FUTURE

THE SECOND LIFE HUB

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aE Graduation
2015

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Community, factory, textiles

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Concept, needs and services

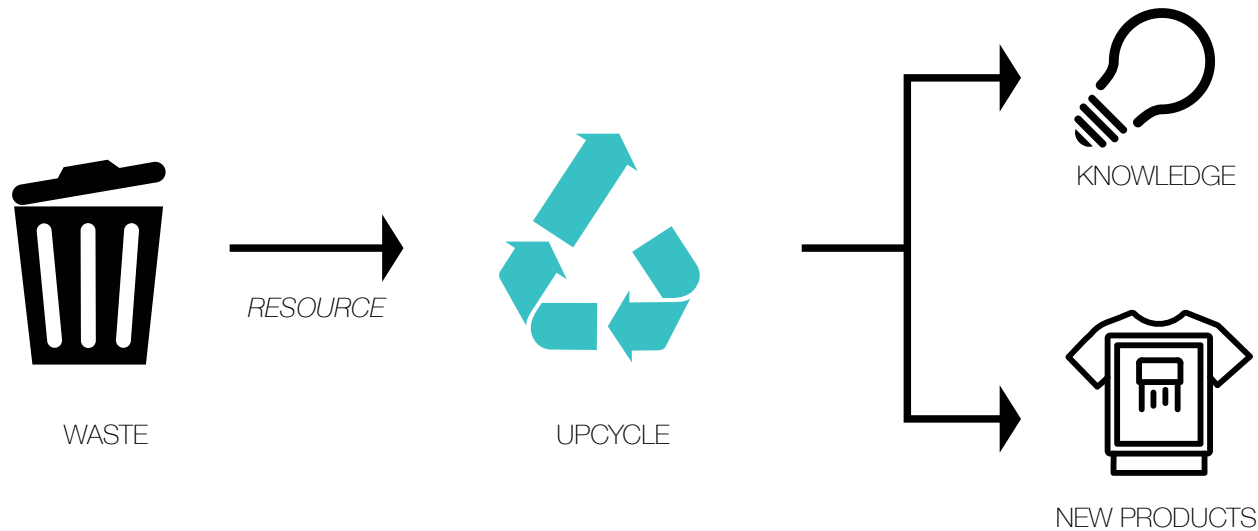
7 - THE BUILDING

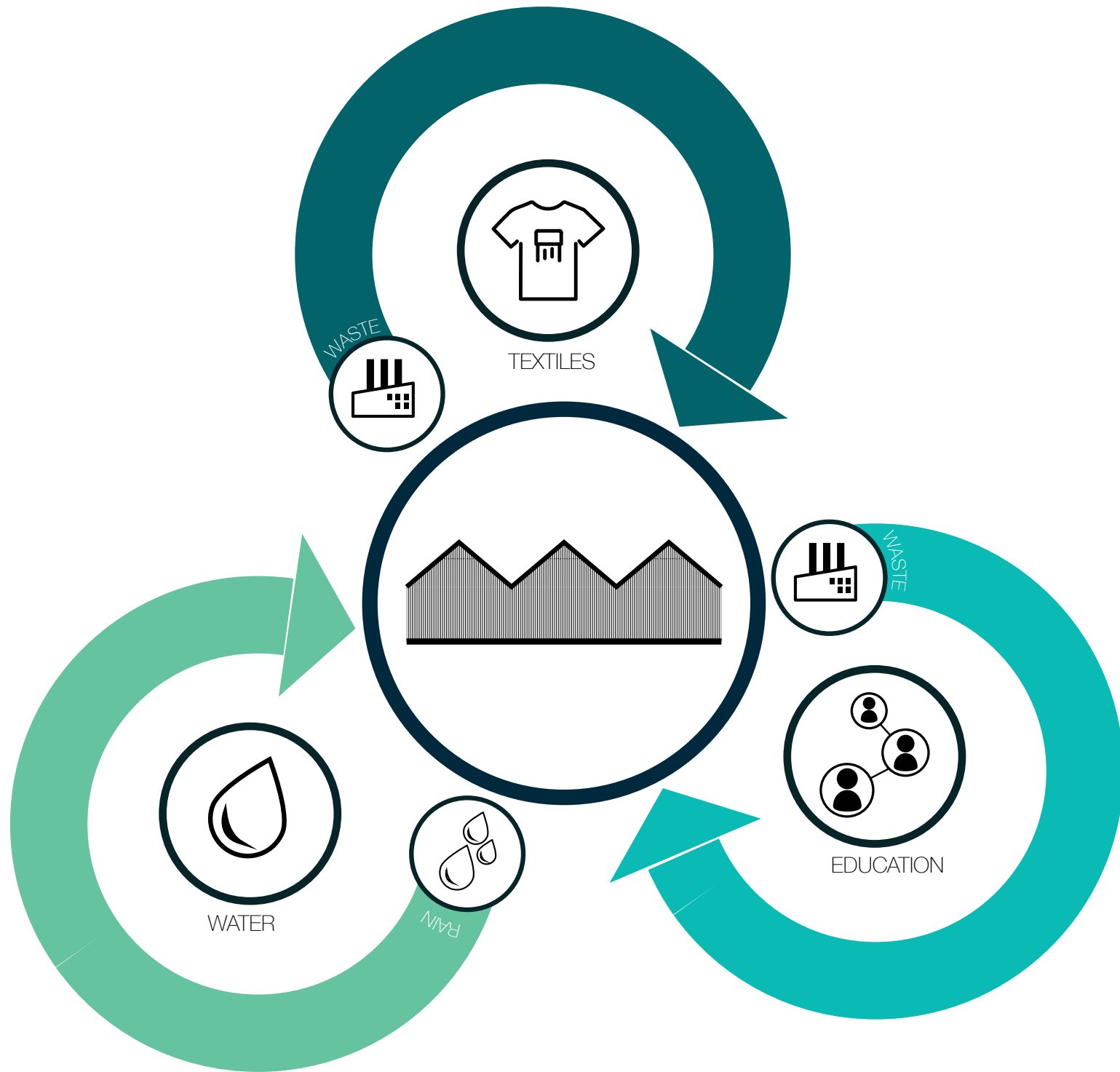
Structure, pods, landscape, activities

THE SECOND LIFE HUB

RE-CYCLE AND UP-CYCLE HUB FOR TEXTILE
COMMUNITIES IN INDONESIA.

*DEALING WITH INDUSTRIAL TEXTILE WASTE
AND THE COMMUNITY.*





THE TRADITIONAL FUTURE

**INDONESIA AND THE
TEXTILE
INDUSTRY**

WASTE AND THE INDEPENDENT WORKFORCE

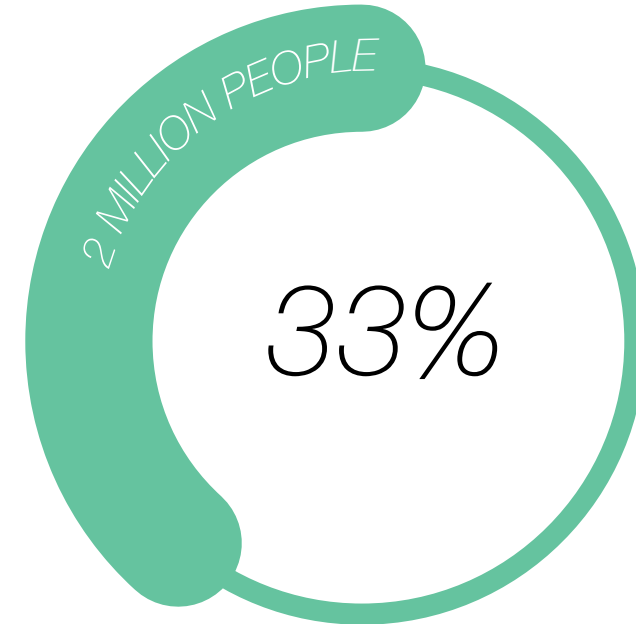
INDONESIA AND THE TEXTILE INDUSTRY



OF TEXTILES USED IN THE INDUSTRY ARE PRODUCED WITHIN INDONESIA



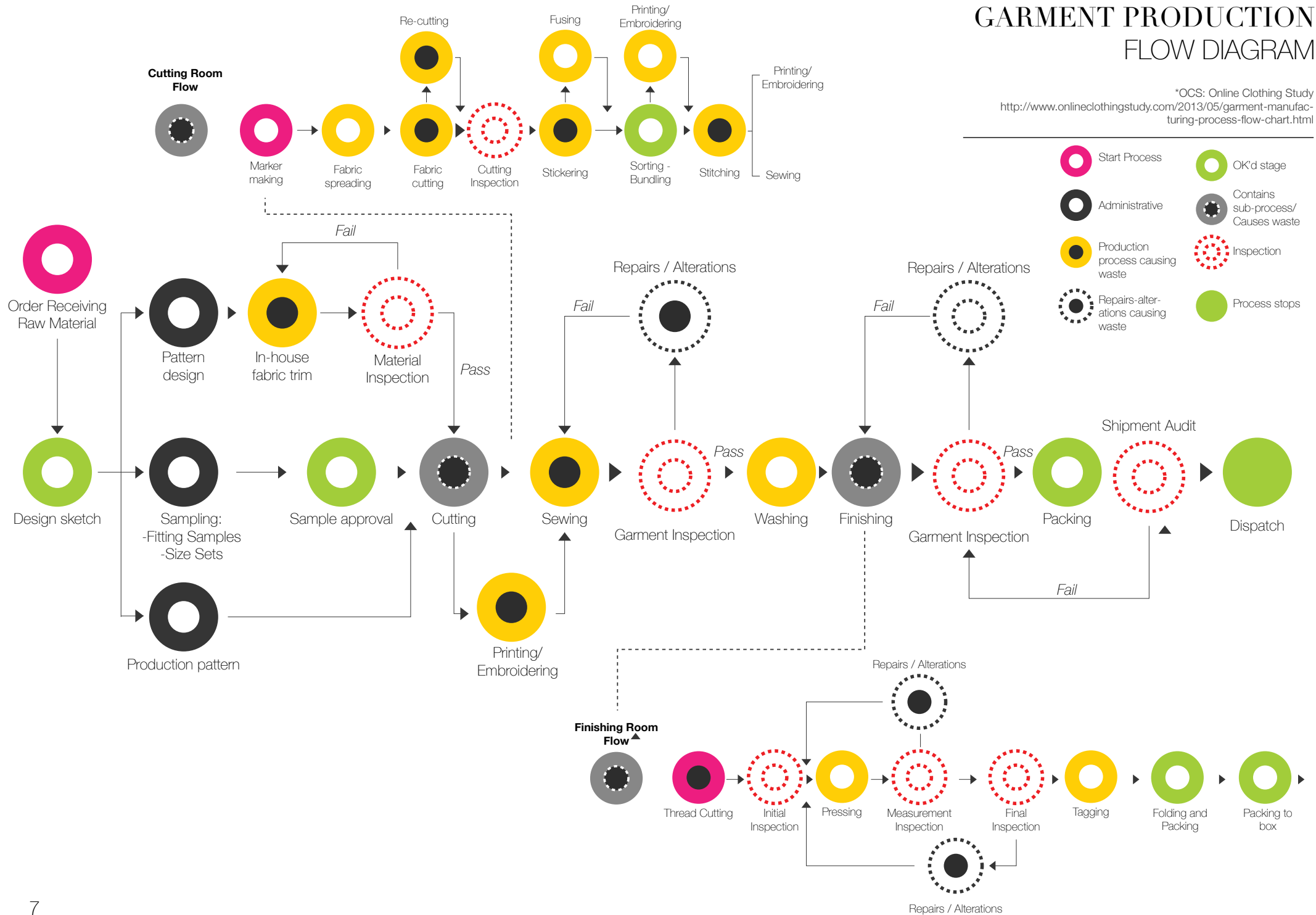
OF ALL OF THE TEXTILE COMPANIES IN INDONESIA ARE IN BANDUNG



NEARLY A THIRD OF BANDUNG'S POPULATION IS EMPLOYED IN THE TEXTILE INDUSTRY

GARMENT PRODUCTION FLOW DIAGRAM

*OCS: Online Clothing Study
<http://www.onlineclothingstudy.com/2013/05/garment-manufacturing-process-flow-chart.html>





COMMUNITY FACTORY WORKERS

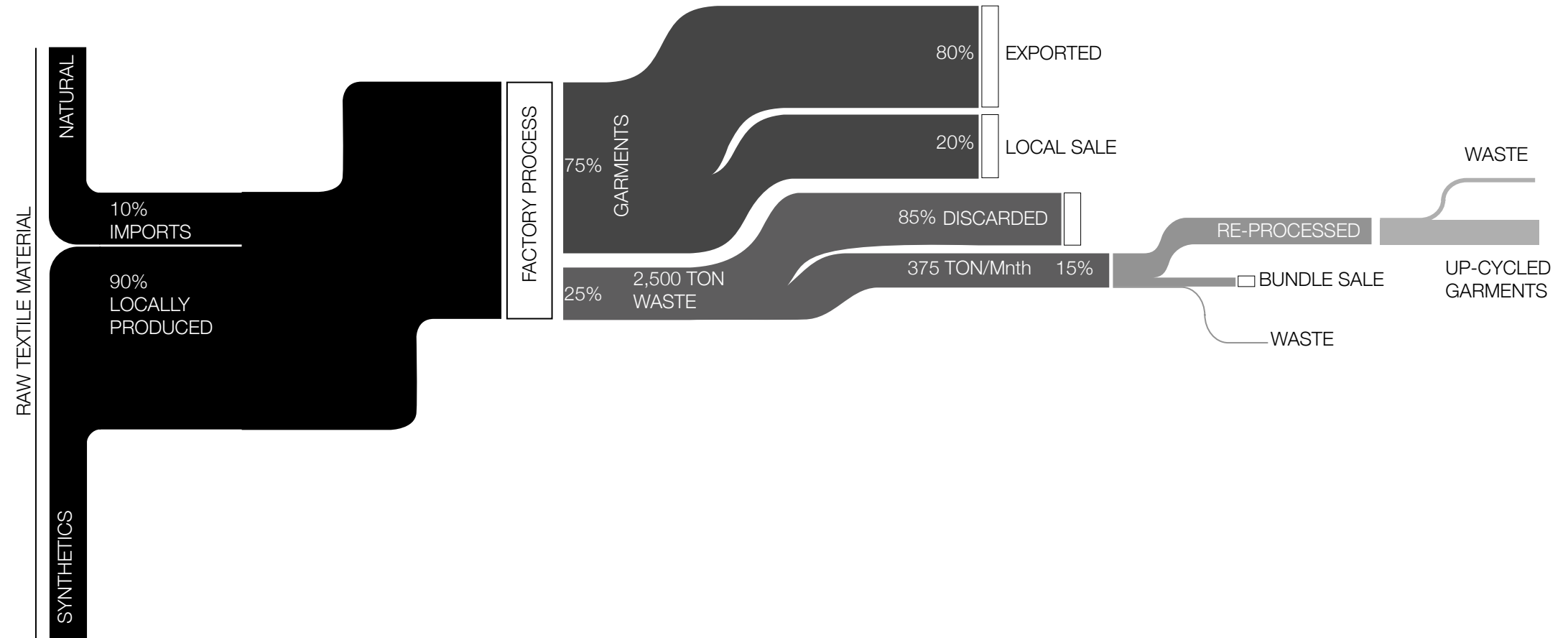


WASTE

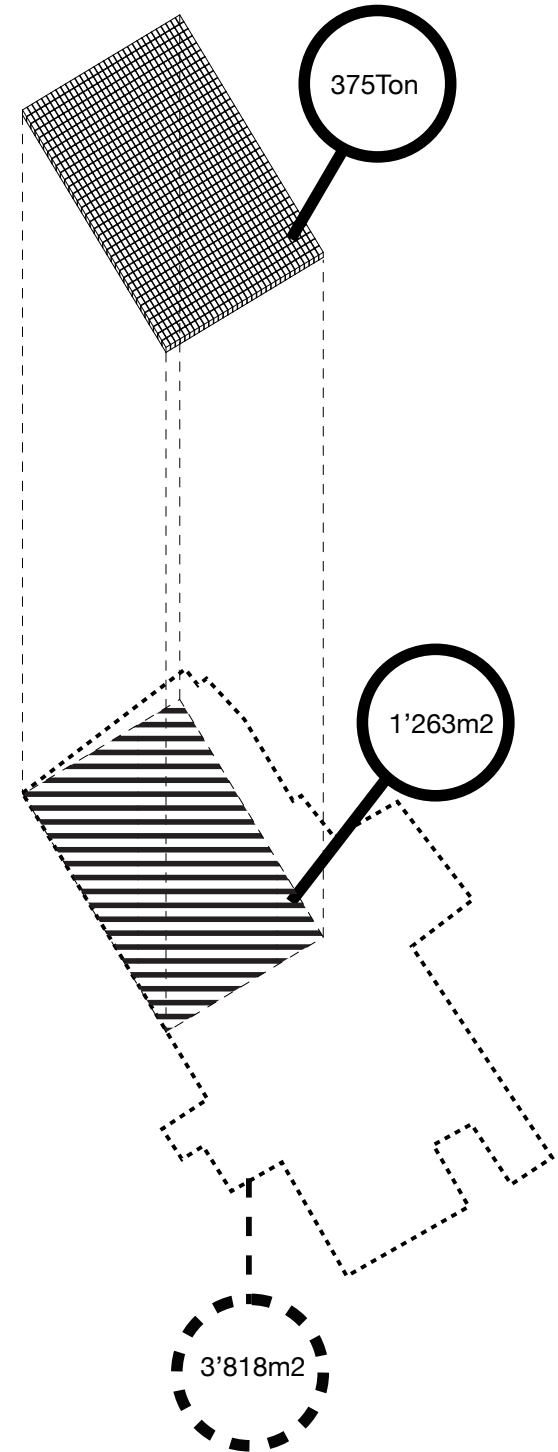
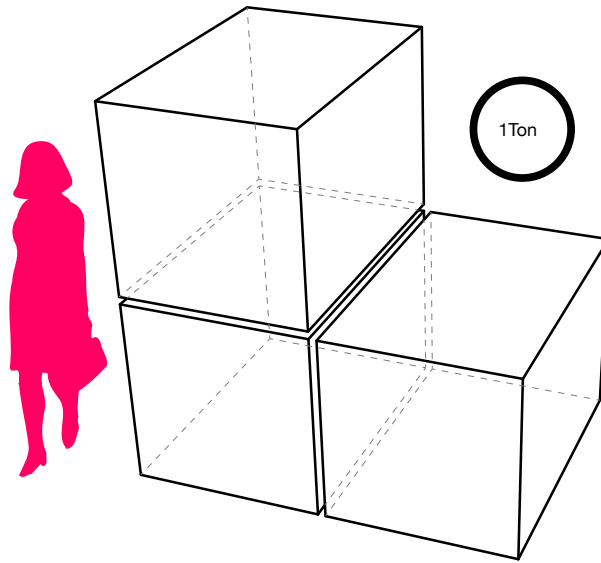
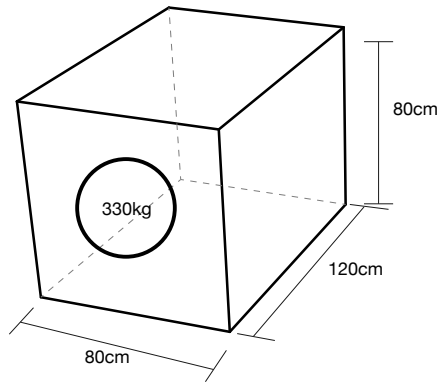
WASTE CYCLES

QUANTITY FLOW

Textile production process revised through a Sankey Diagram, the diagram concentrates on flow amounts within the kampung.



WASTE TO SITE AREA RATIO





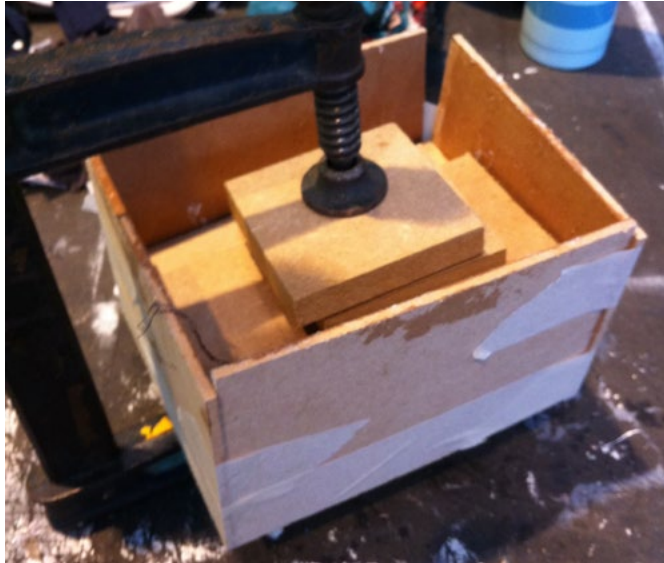
THE RESEARCH QUESTION

*¿Can the flow of textile waste streams
be hacked and used to re-invigorate a community's
knowledge and home economy?*

TECHNICAL RESEARCH

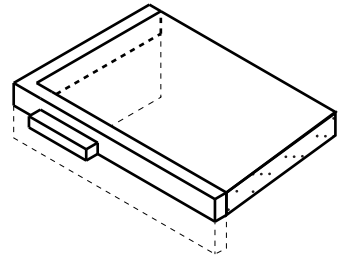
¿How can the re-processing of textile waste become part of the built environment?

¿What kind of space is needed to bring the community together and create a self-teaching community of textile experts?

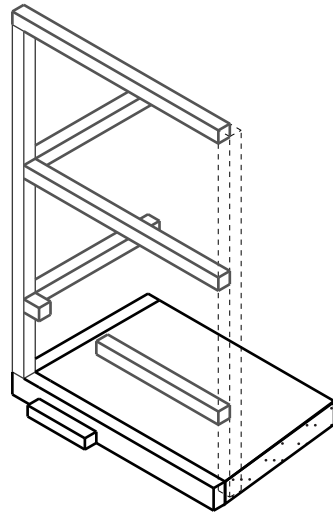




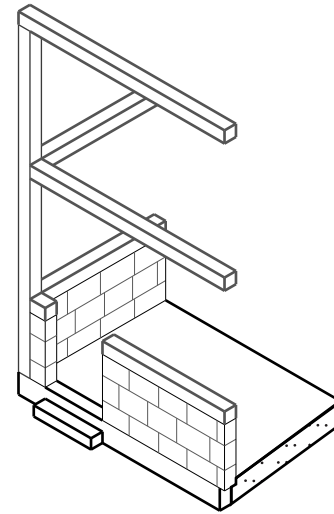
FOUNDATIONS



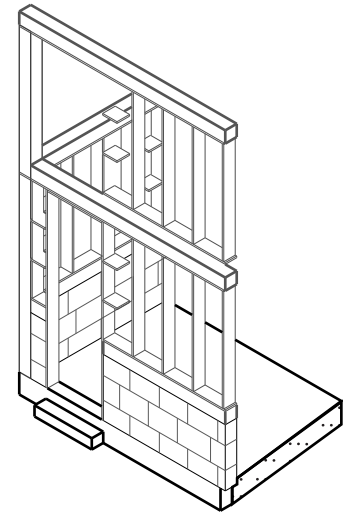
SKELETON STRUCTURE



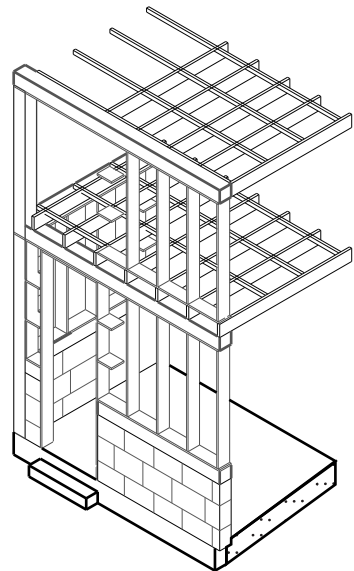
1st INFILL LAYER



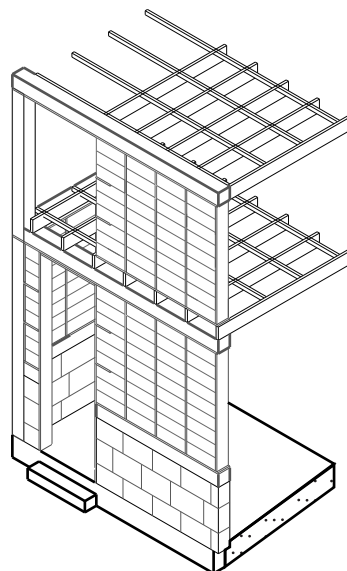
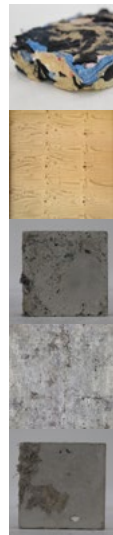
FAÇADE STRUCTURE



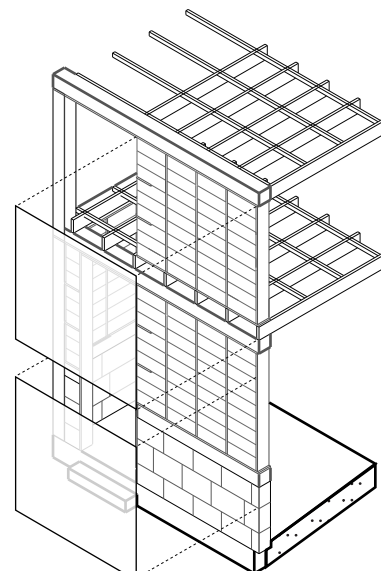
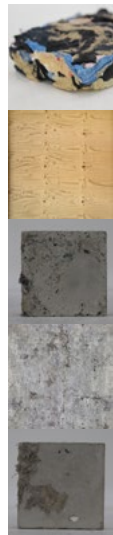
SECONDARY STRUCTURE



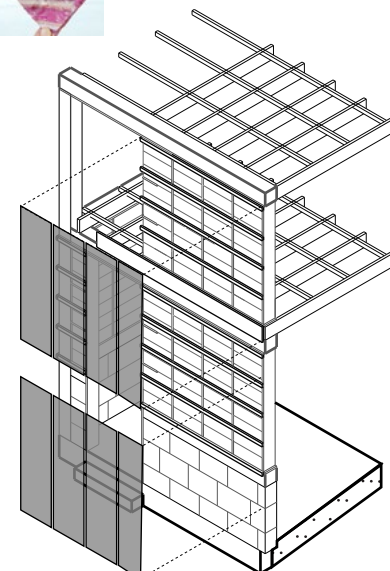
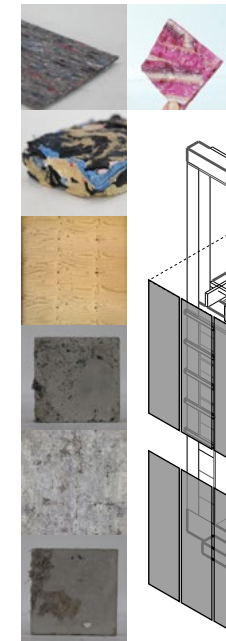
INFILL LAYER



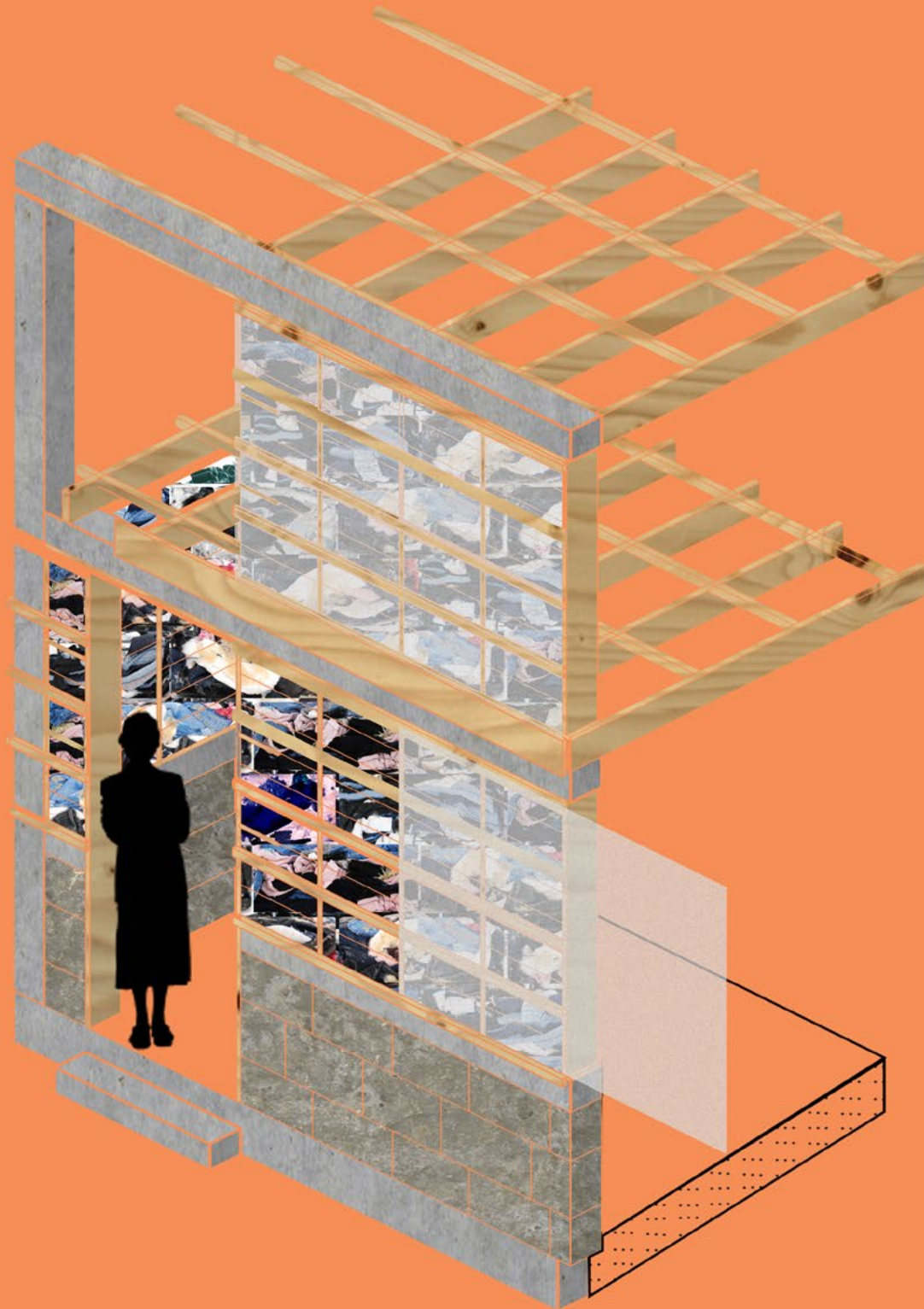
WATERPROOFING



SKIN



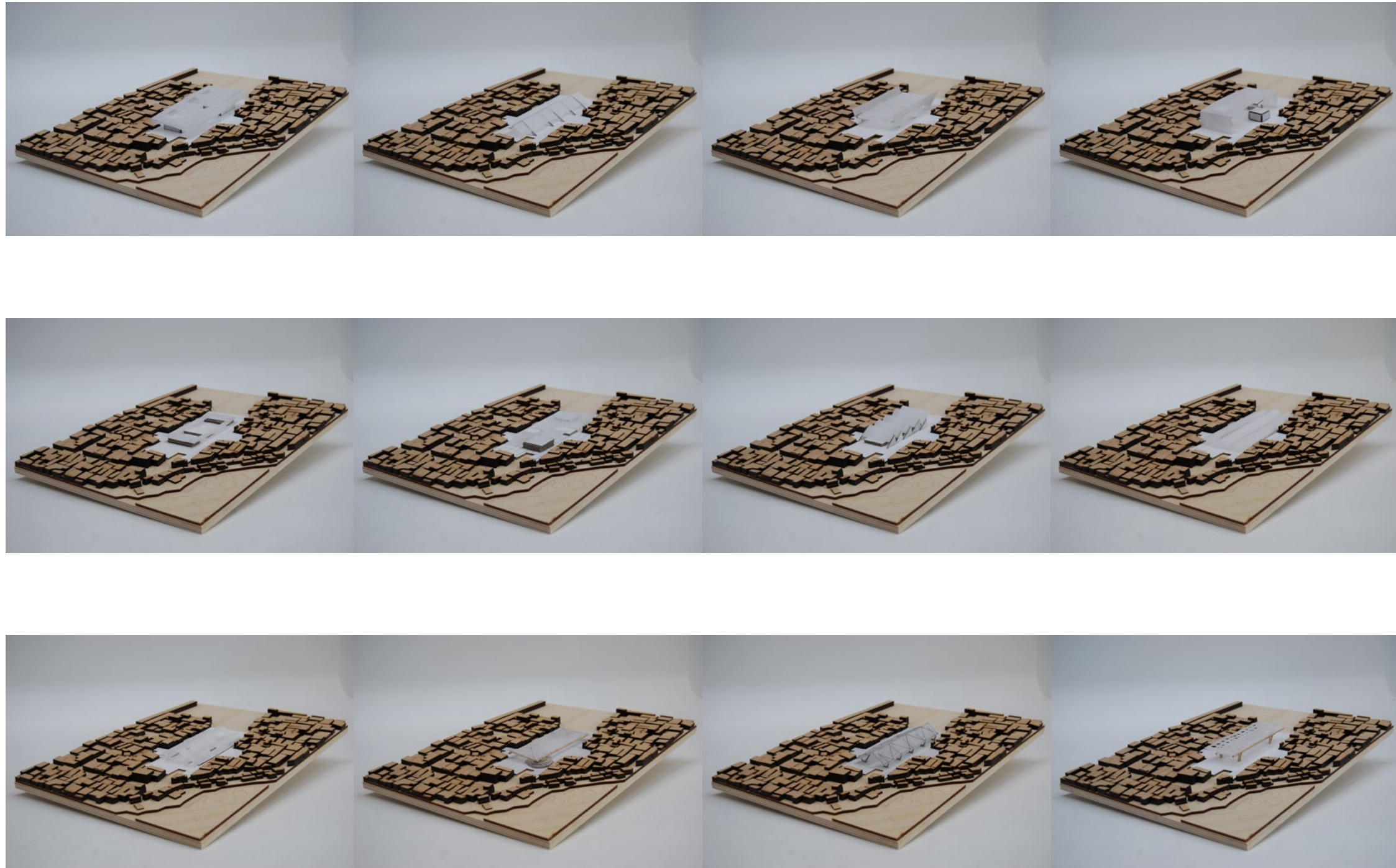
THE PROTO-STRUCTURE



THE BRICK

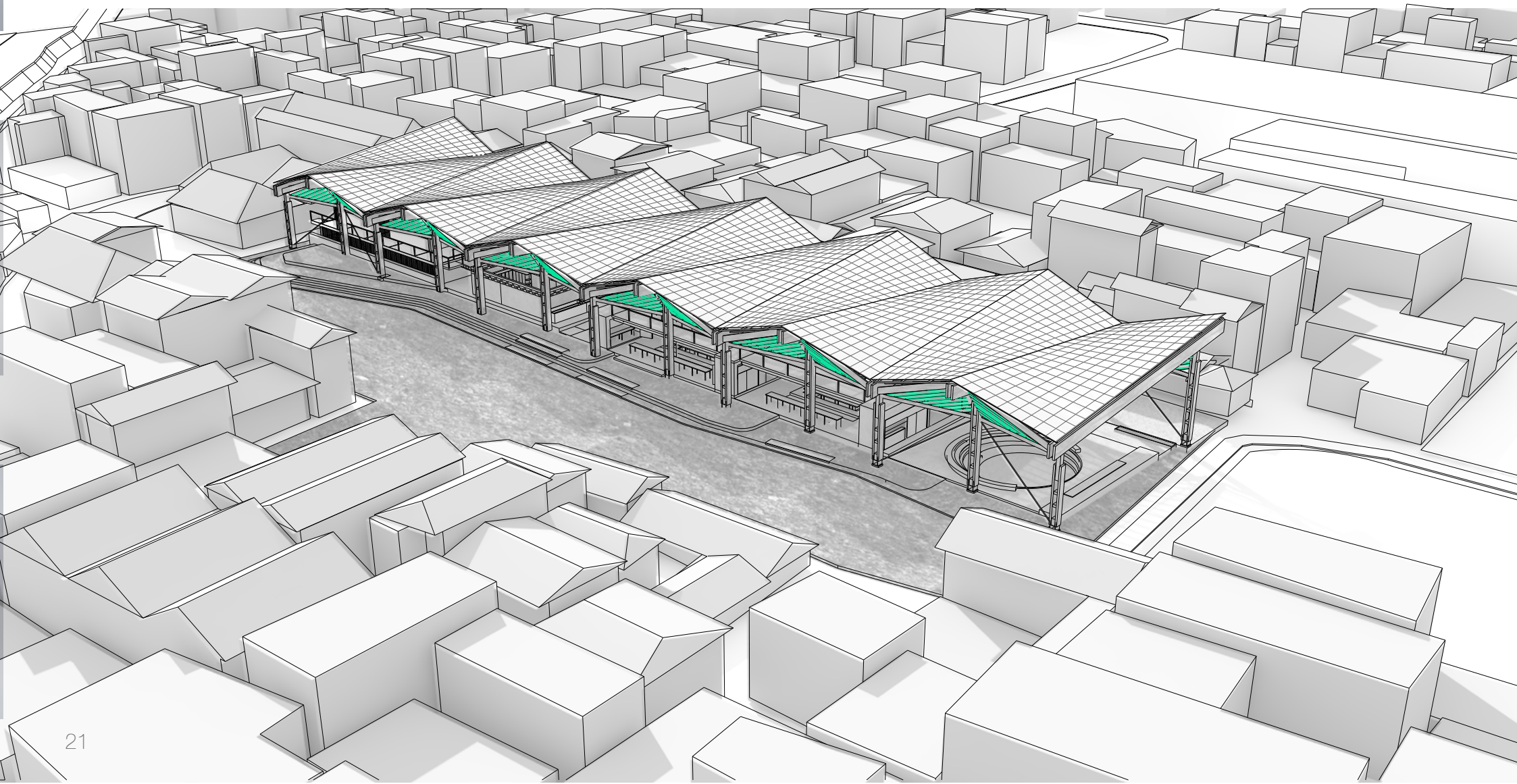


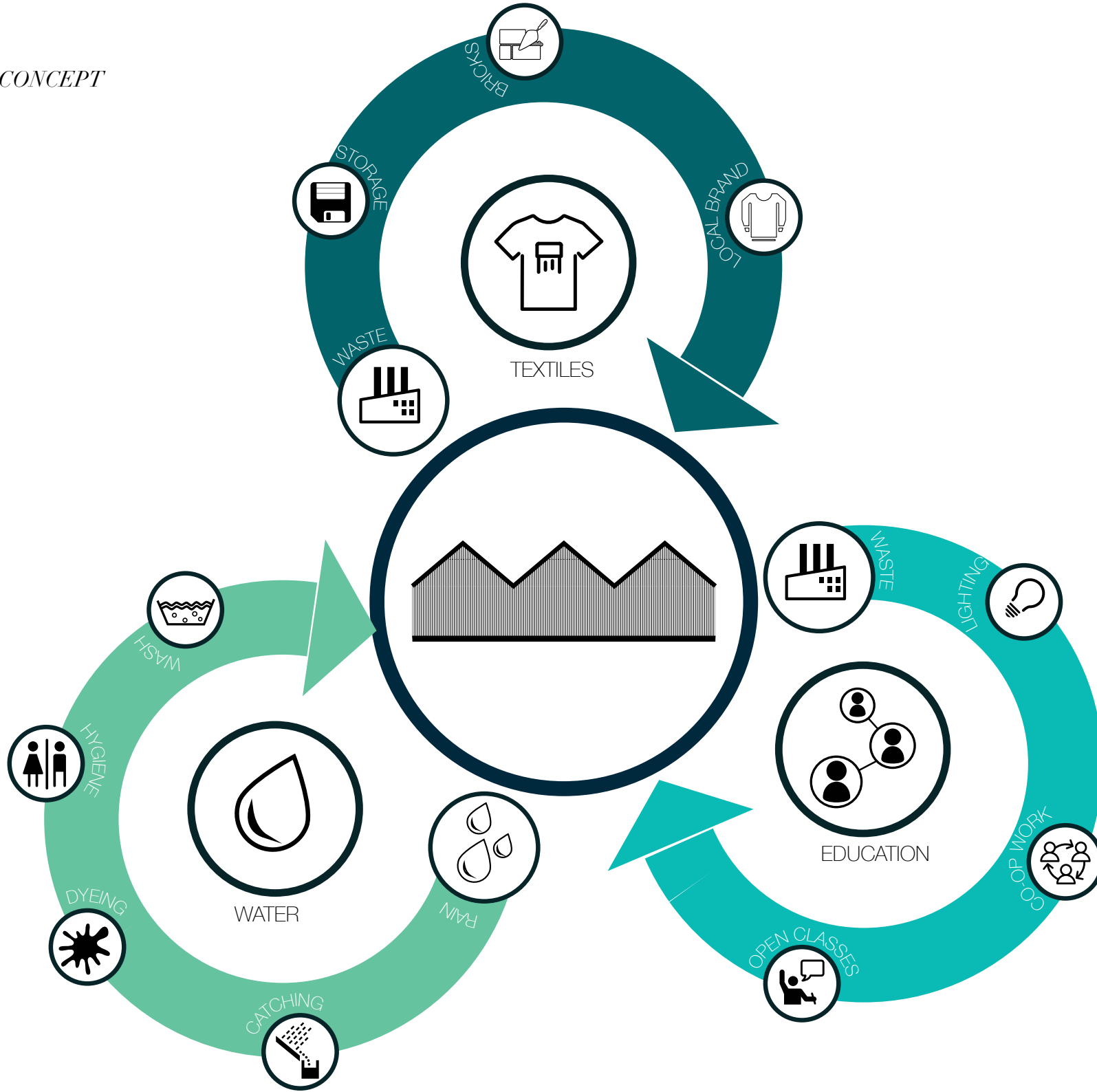
THE ROOFS



THE TRADITIONAL FUTURE

THE BRICK + THE SECOND LIFE HUB





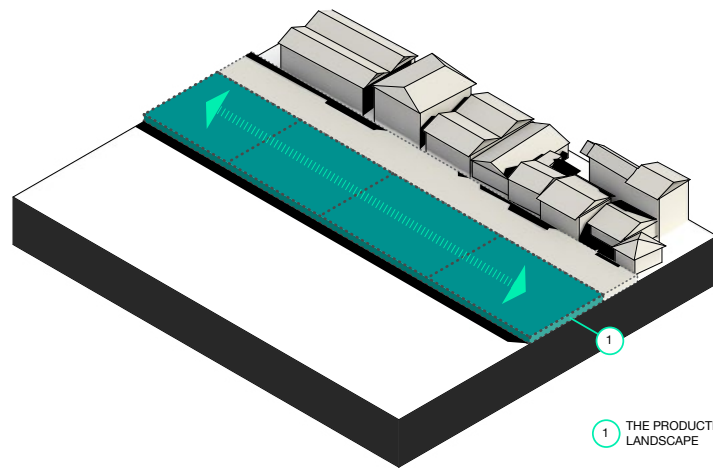
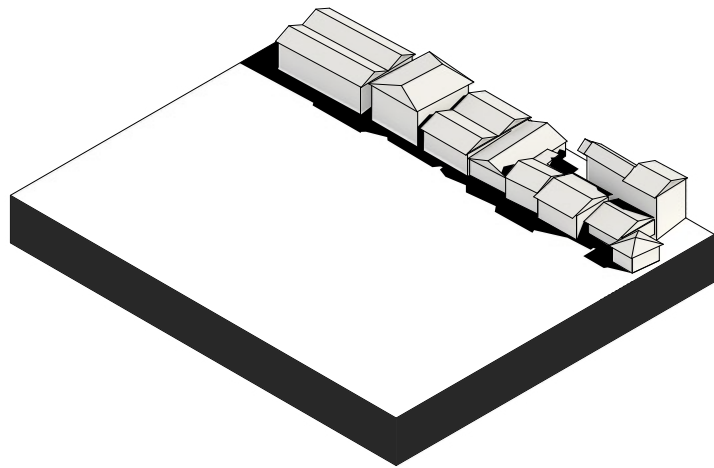
SITE



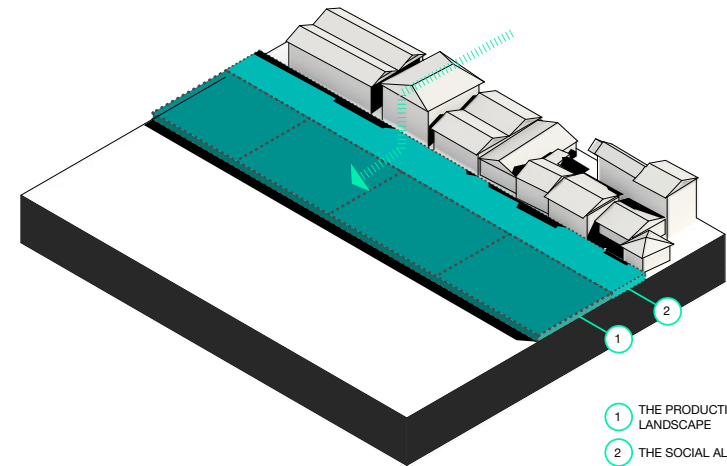
Location



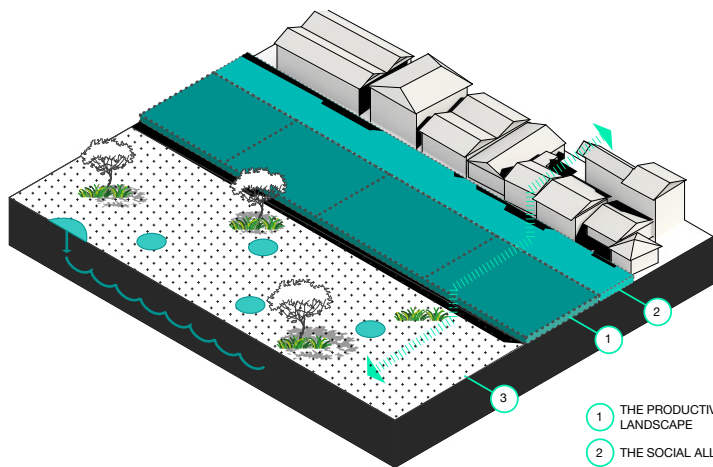
PLACEMENT STRATEGY



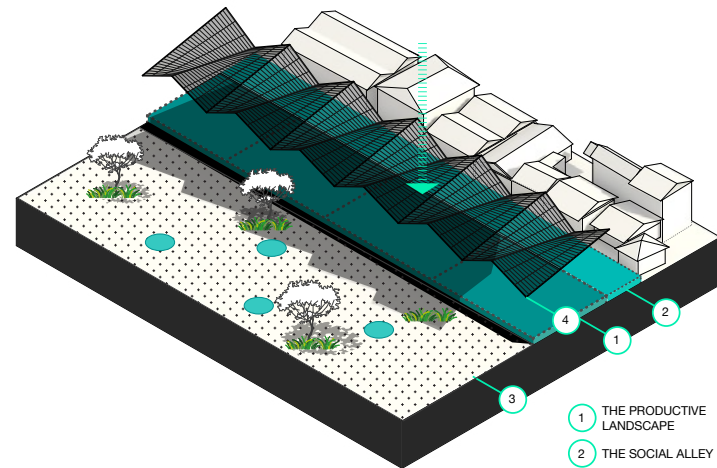
1 THE PRODUCTIVE LANDSCAPE



1 THE PRODUCTIVE LANDSCAPE
2 THE SOCIAL ALLEY



1 THE PRODUCTIVE LANDSCAPE
2 THE SOCIAL ALLEY
3 THE FUNCTIONAL LANDSCAPE

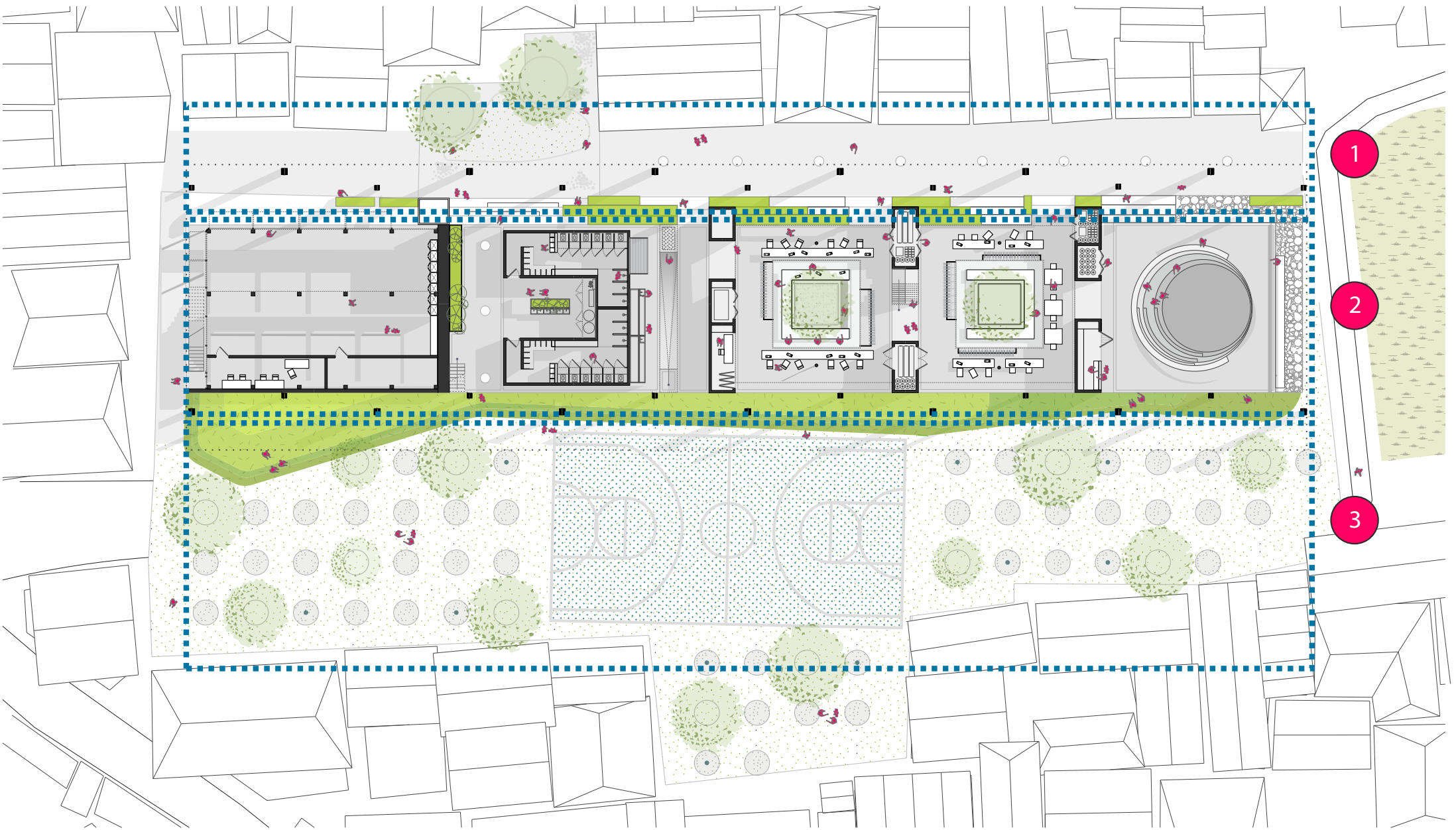


1 THE PRODUCTIVE LANDSCAPE
2 THE SOCIAL ALLEY
3 THE FUNCTIONAL LANDSCAPE
4 THE LONGHOUSE

THE TRADITIONAL FUTURE

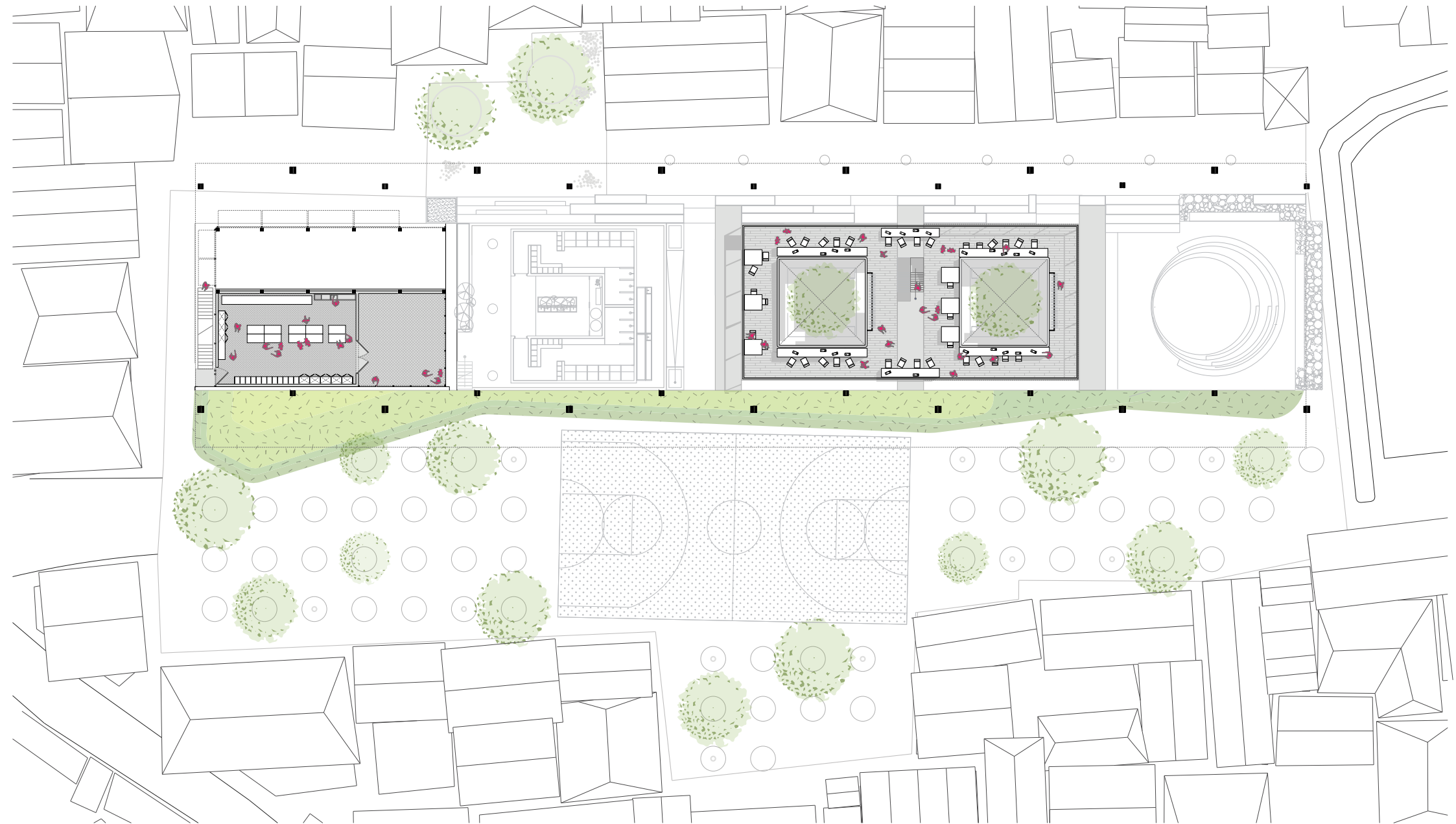
THE PROGRAMME

SPACES AND ACTIVITIES

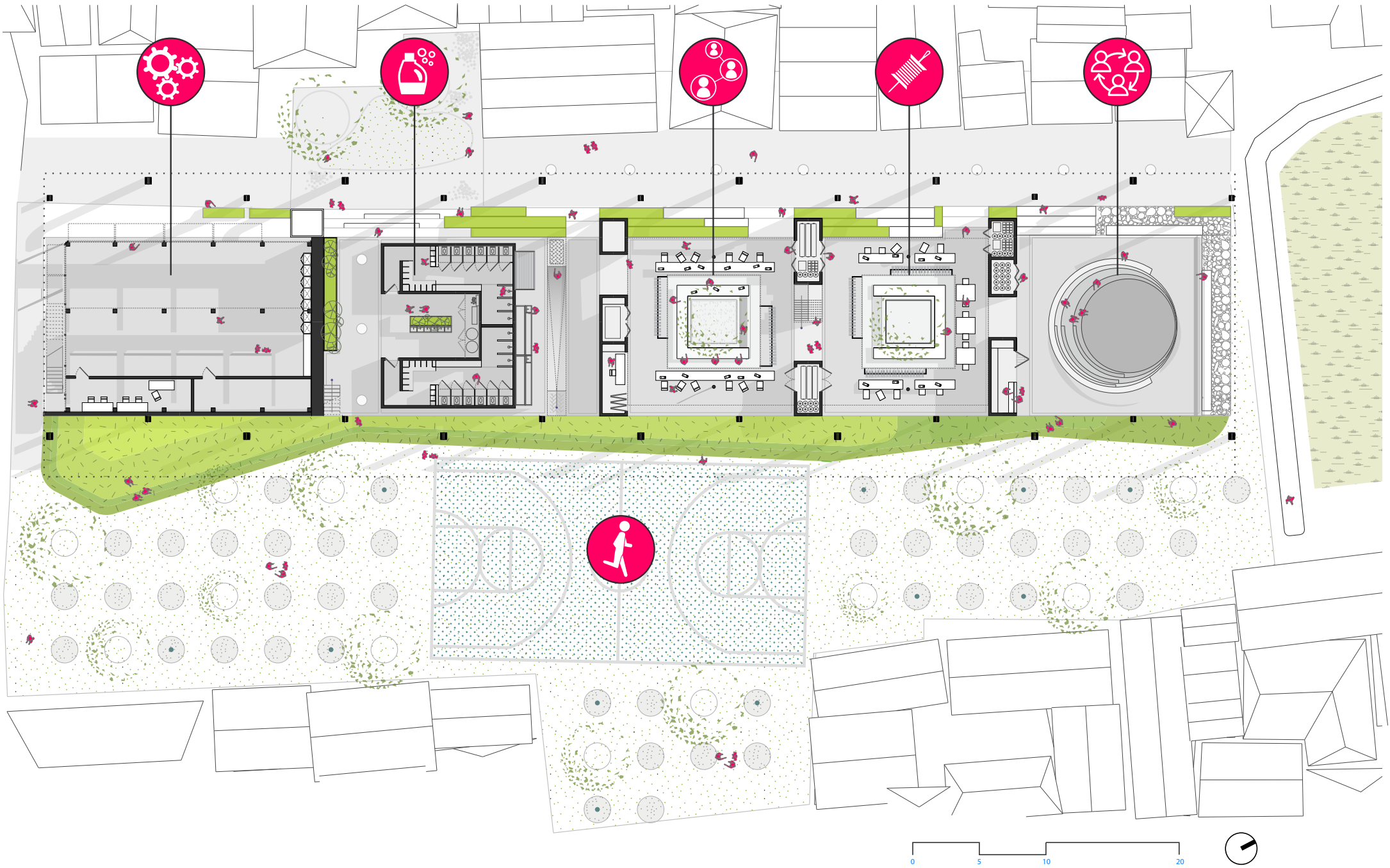


1. NEW KAMPUNG ALLEY 2. PRODUCTIVE LANDSCAPE 3. FUNCTIONAL LANDSCAPE





FIRST FLOOR ACTIVITIES



BRICK POD



WASHING POD



COWORKING POD



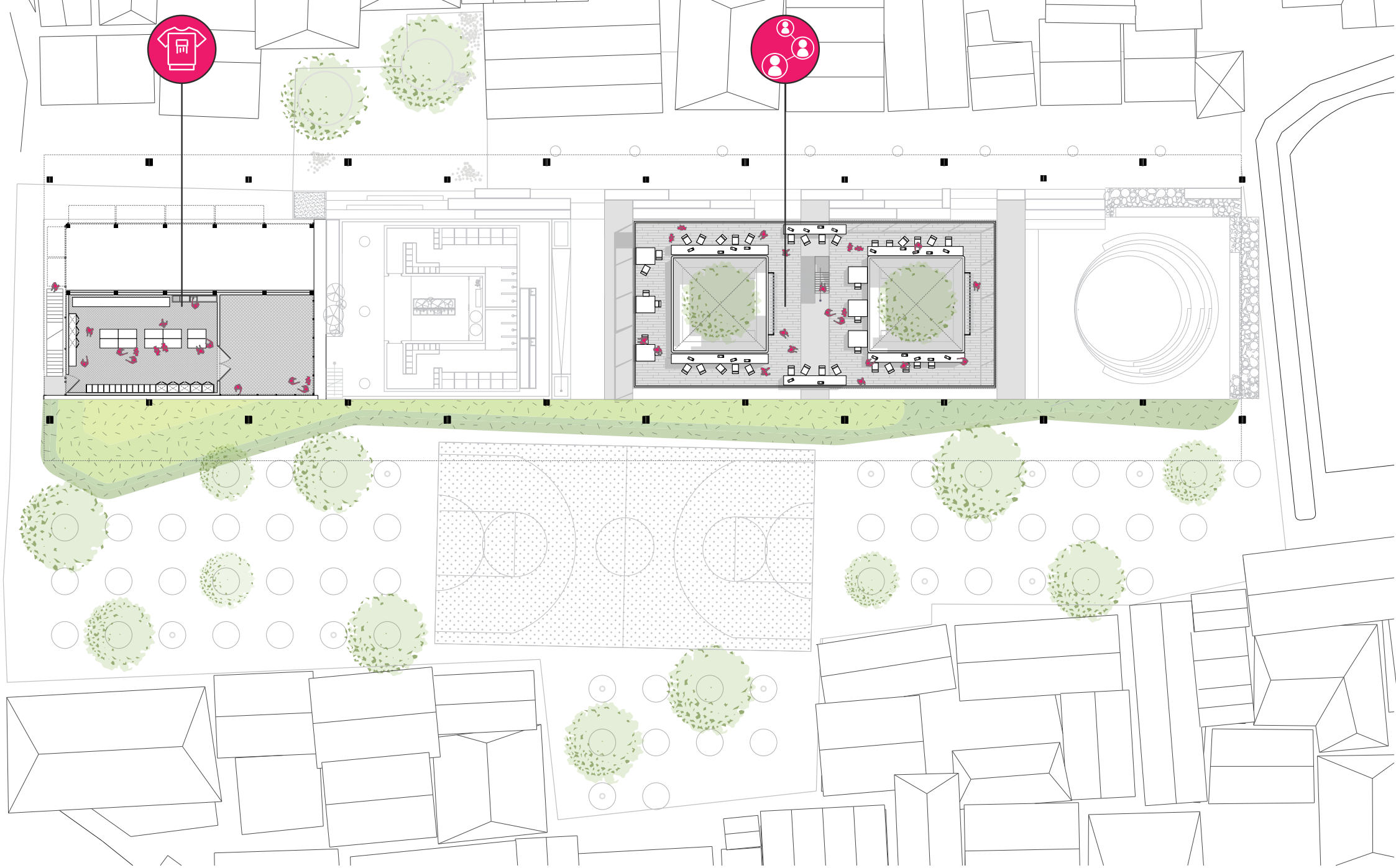
DESIGN POD



OPEN LEARNING POD



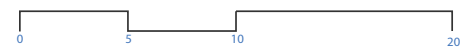
MULTIPURPOSE
LANDSCAPE



DIGITAL POD



COWORKING POD





OPEN LEARNING POD



DESIGN POD



COWORKING POD



WASHING POD



BRICK POD

G

F

E

D

C

B

A

17.81

14.63

14.38

89.00

4.27

17.51

21.03

+2.60

+3.90

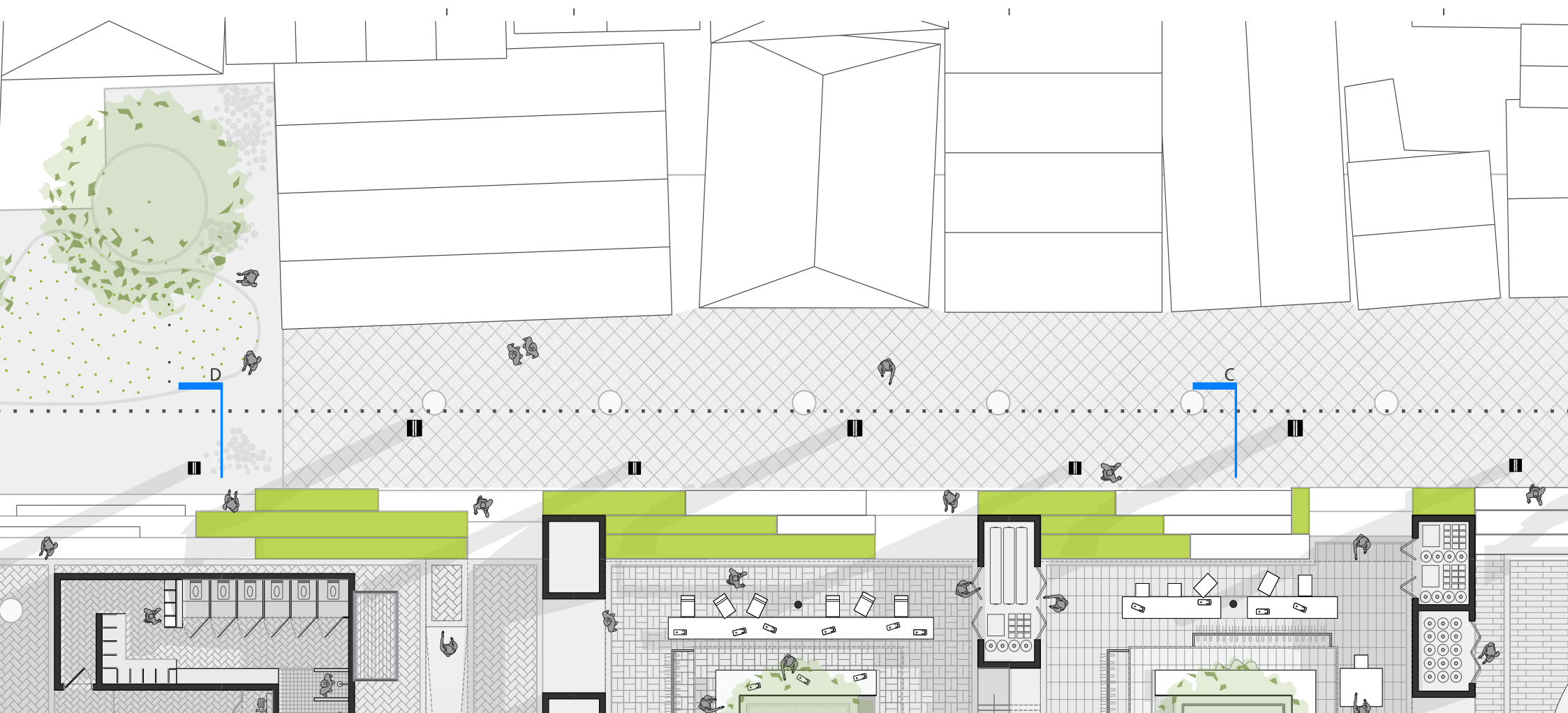
+0.65

+5.50

+3.00

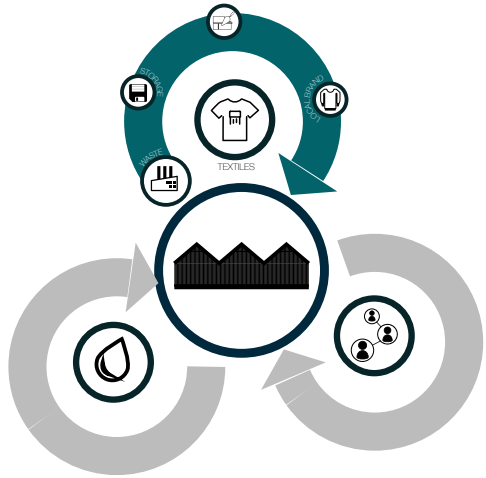
SECTION AA

NEW KAMPUNG ALLEY

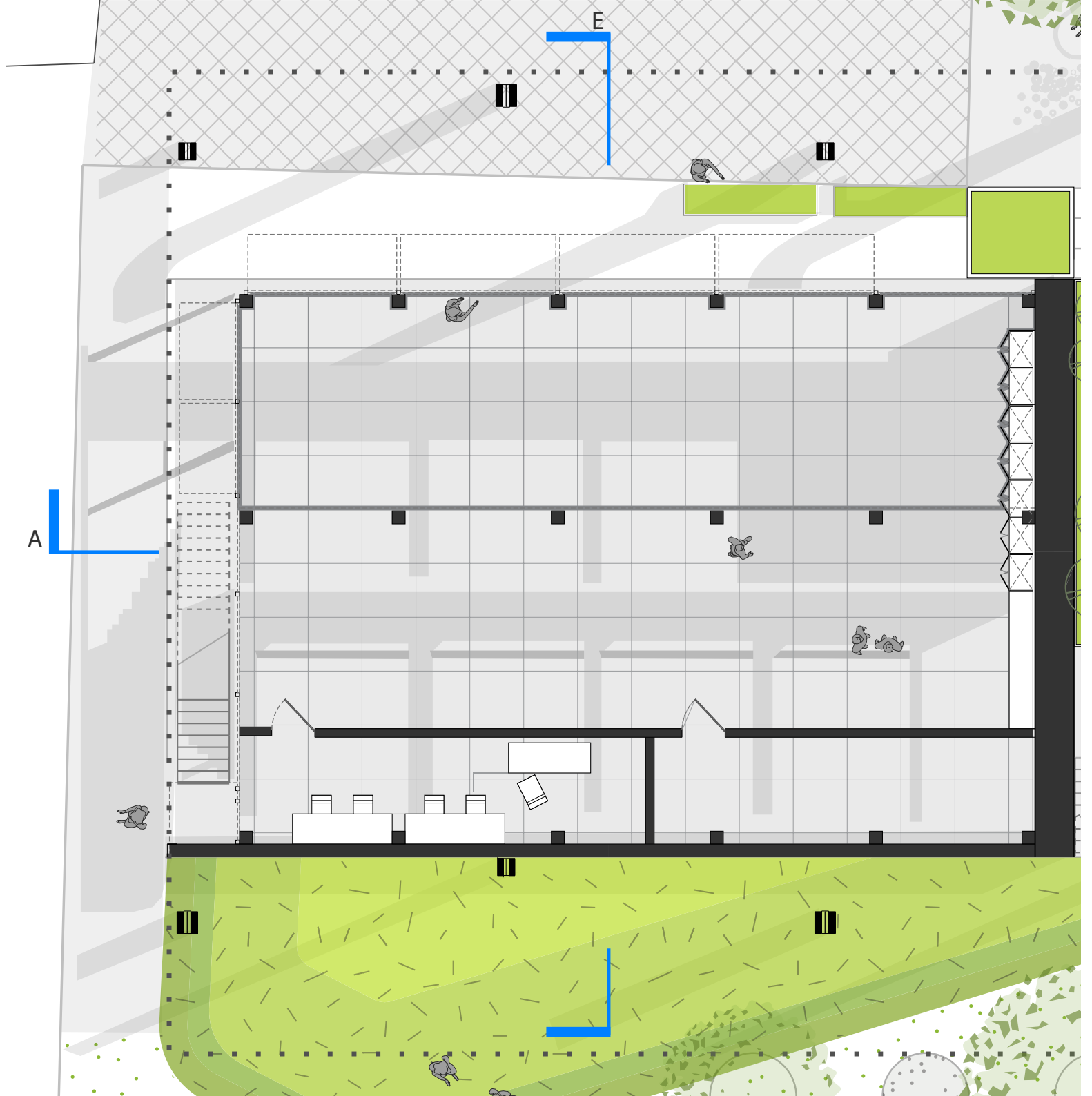


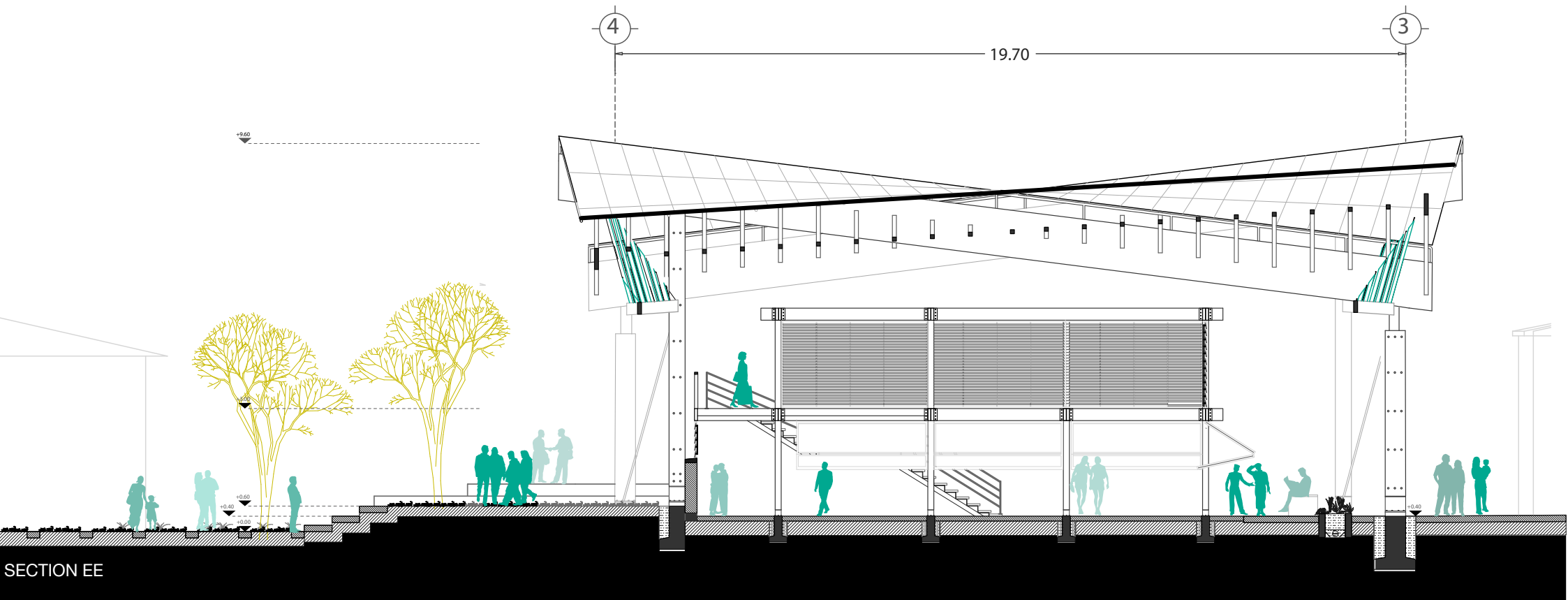


NEW KAMPUNG ALLEY

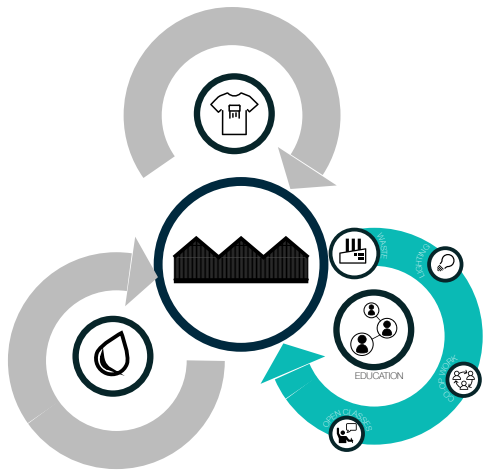


MATERIAL PRODUCTION

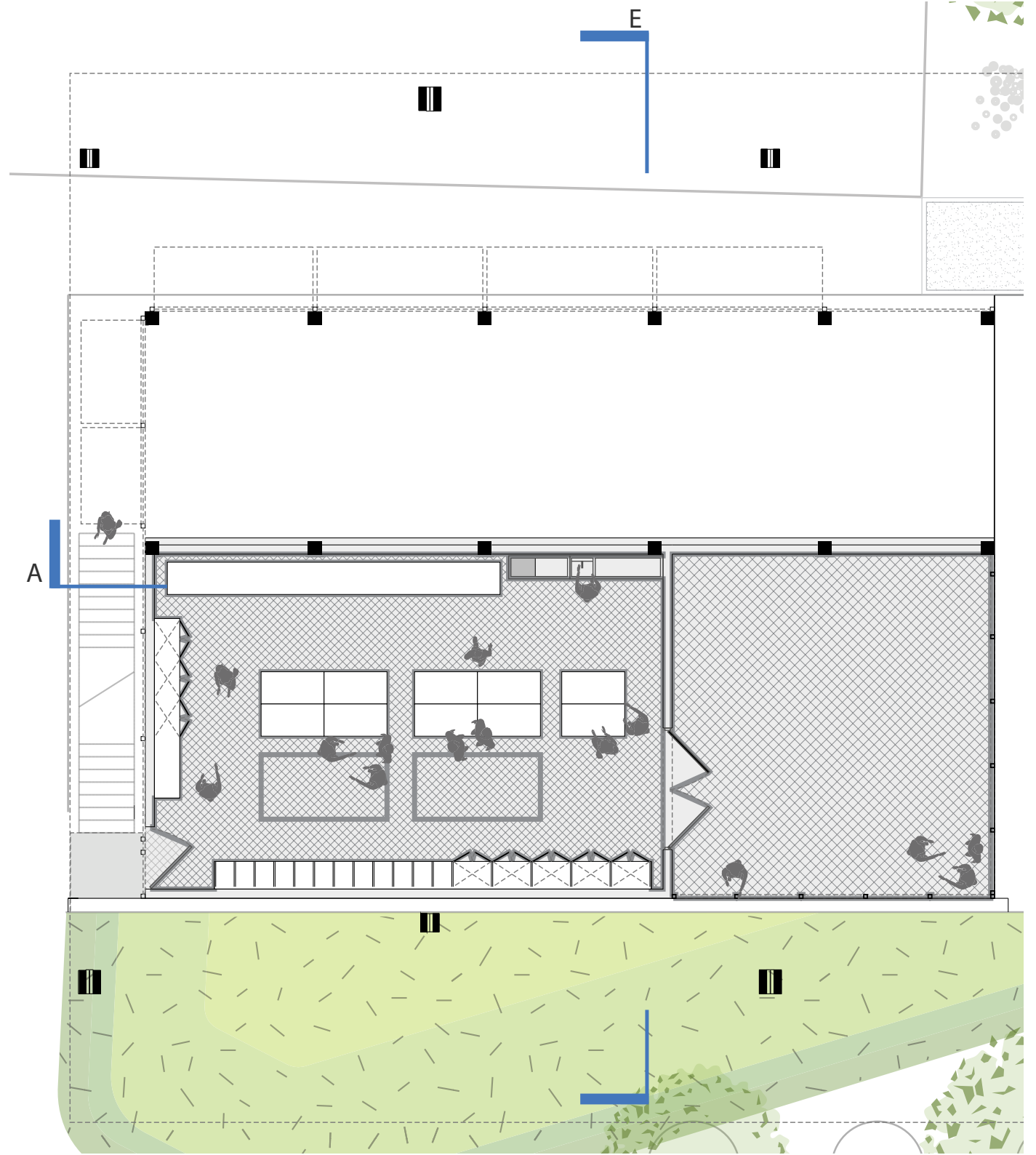




SECTION EE



DIGITAL POD



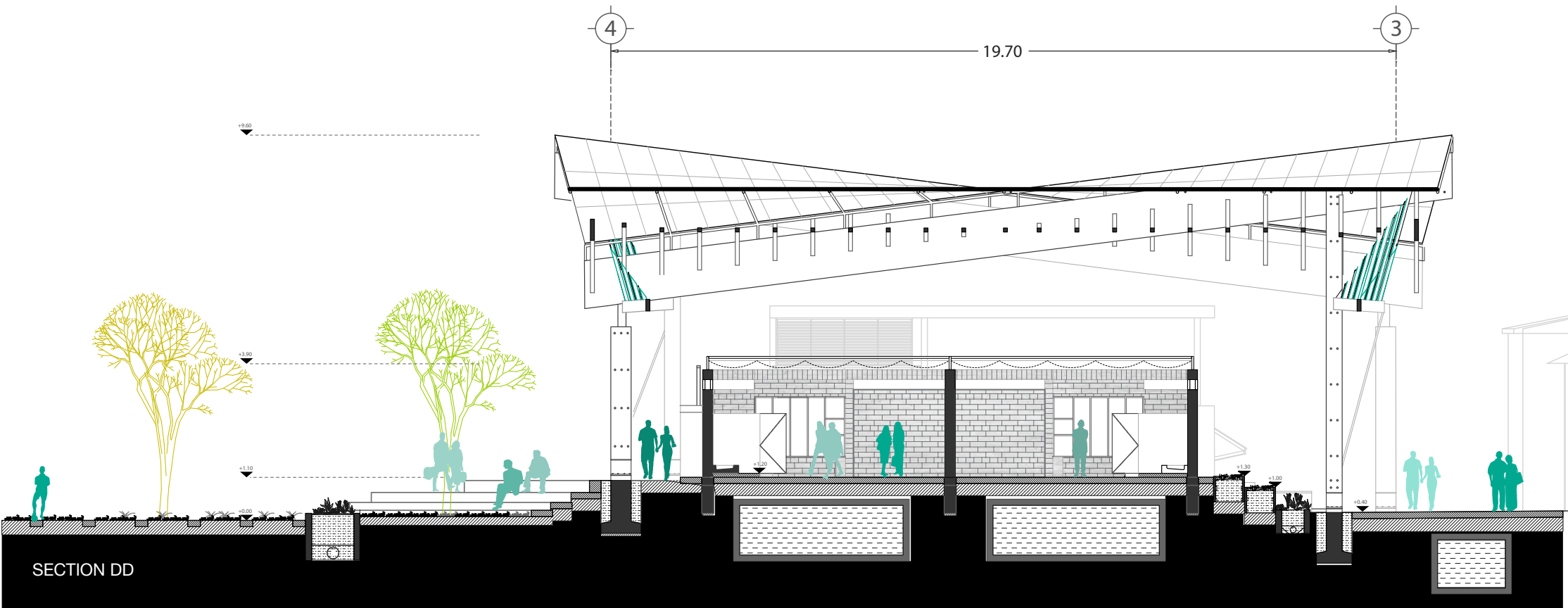
MATERIAL PRODUCTION





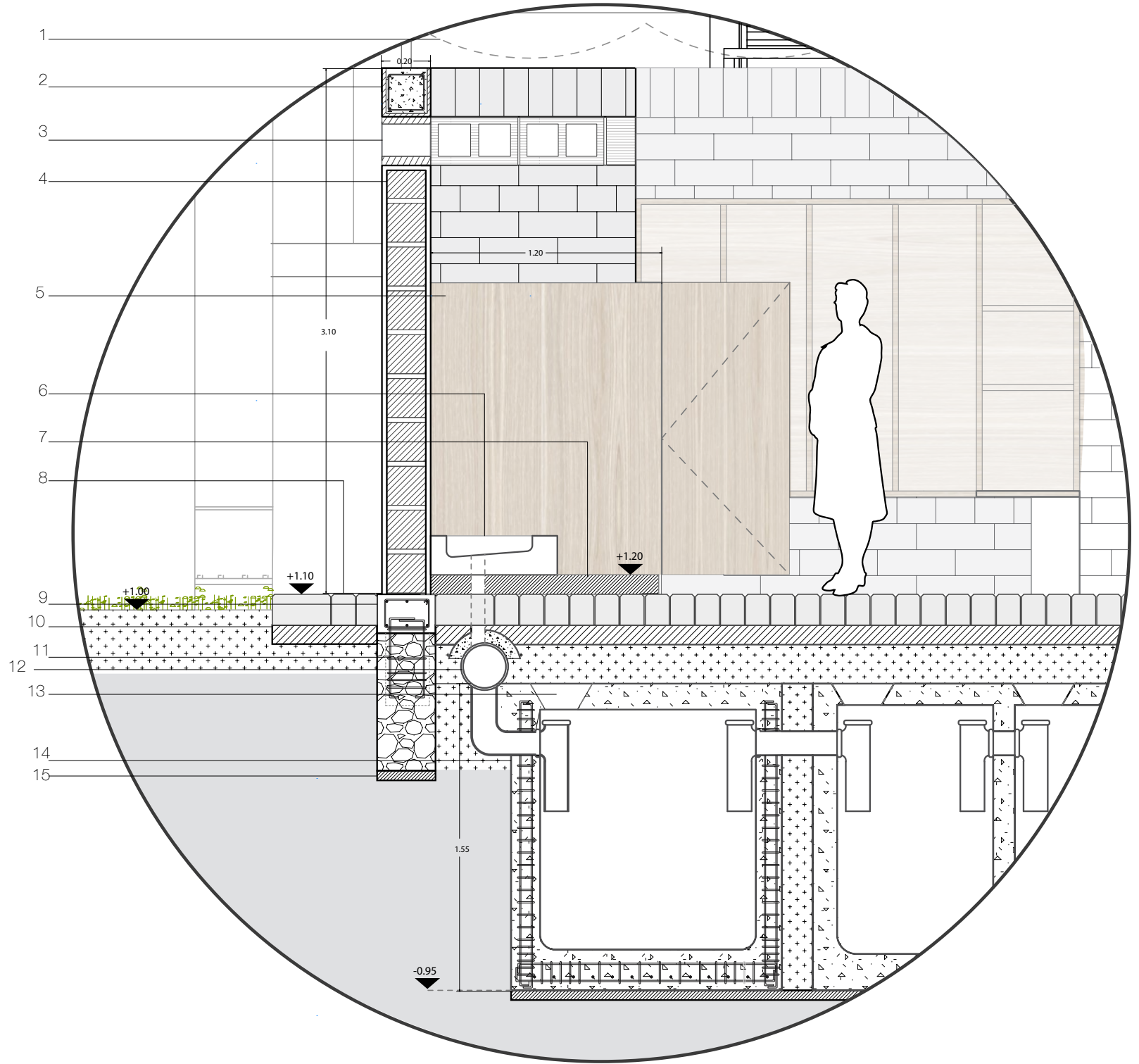
WASHING POD





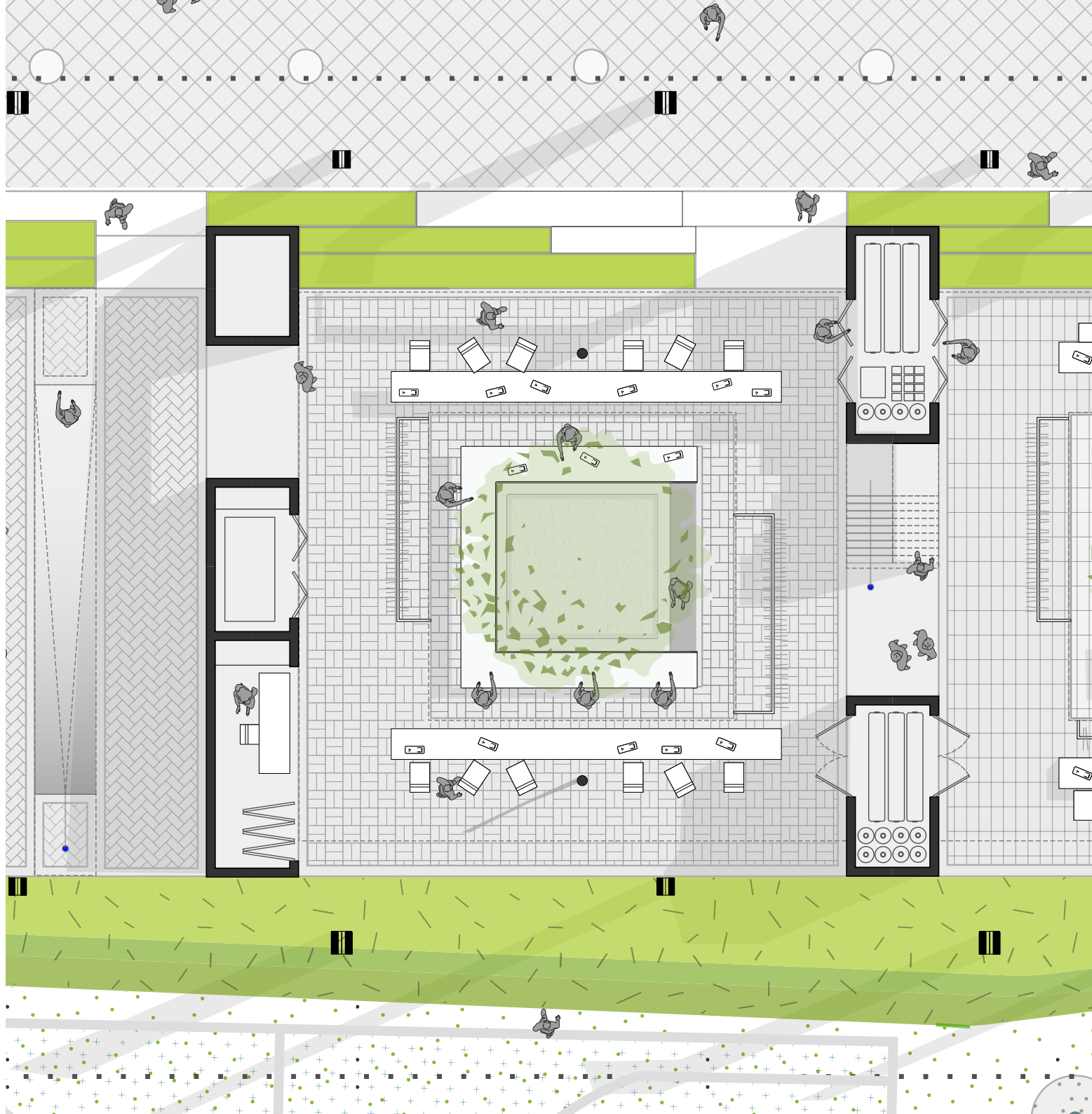
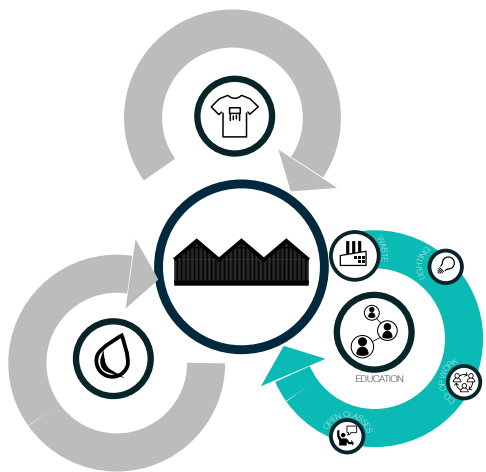
SECTION DD

- 1 Loose textile membrane for privacy
- 2 Sawed textile-hollow block with reinforced poured concrete for creation of closing lintel
- 3 Textile hollow block 200x200x400 rollock position for natural ventilation
- 4 Textile hollow block 200x200x400 wall with mortar-cement joints 1:5
- 5 Coconut wood partitions for WC
- 6 Ceramic floor-toilet
- 7 Poured concrete step for toilet installation
- 8 Textile-cement paver 100x200x200mm
- 9 6" HDPE perforated drain pipe on foundation
- 10 Foundation head reinforced concrete with No.4 rebar 300x00mm
- 11 Stone foundation 700x300mm mortar-cement 1:5
- 12 7" cement pipe connecting into septic tank and further into a simplified sewage system
- 13 Inspection opening into septic tank
- 14 Septic tank construction with reinforced concrete slab 150mm thick with No.3 rebar
- 15 Preparation layer, excavated earth, cement, water.

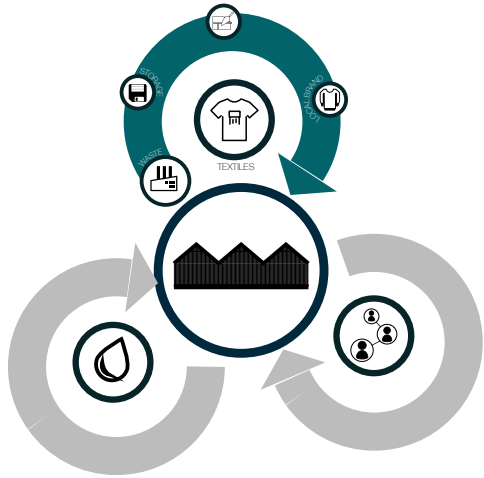




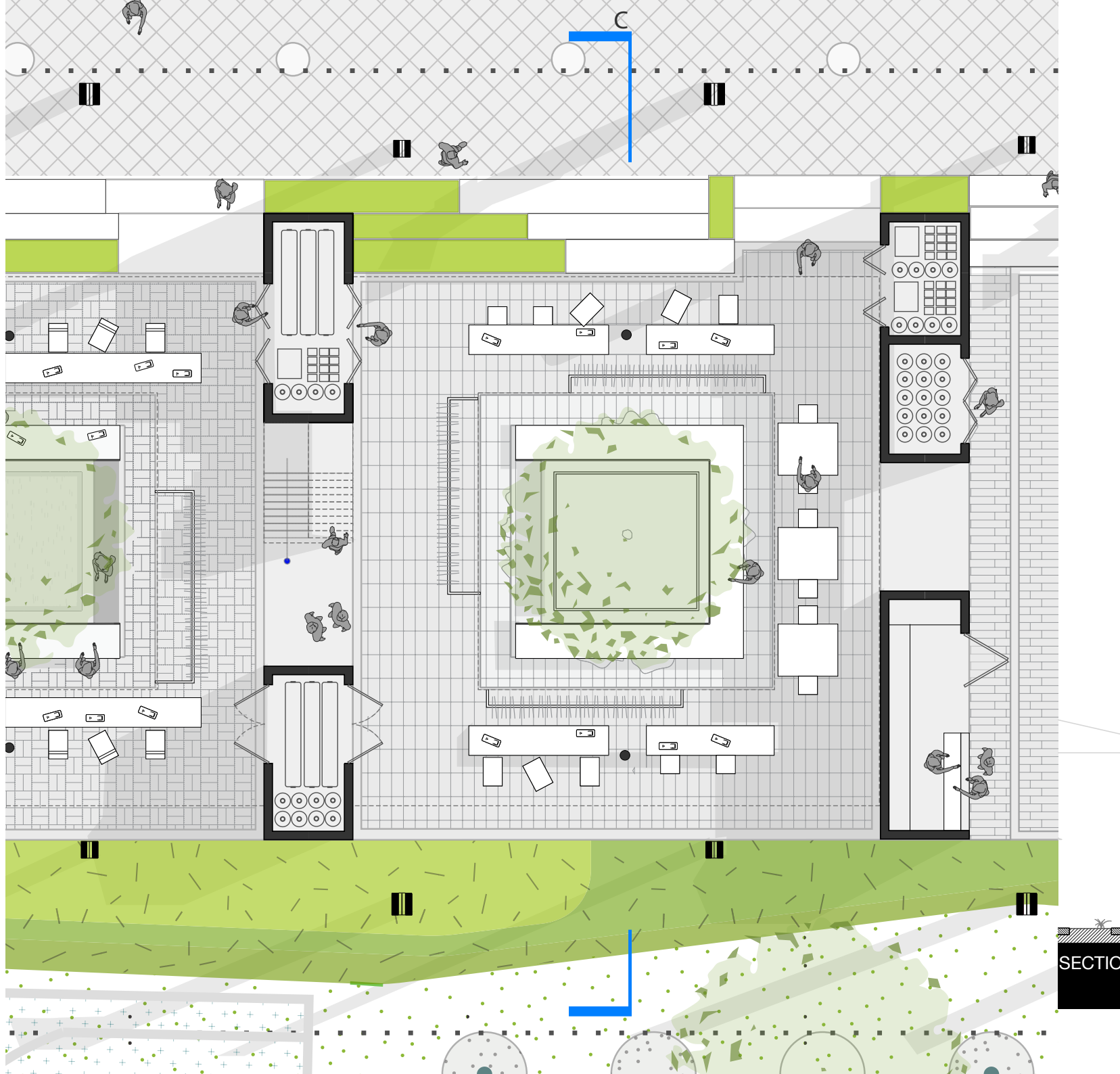
WASHING POD



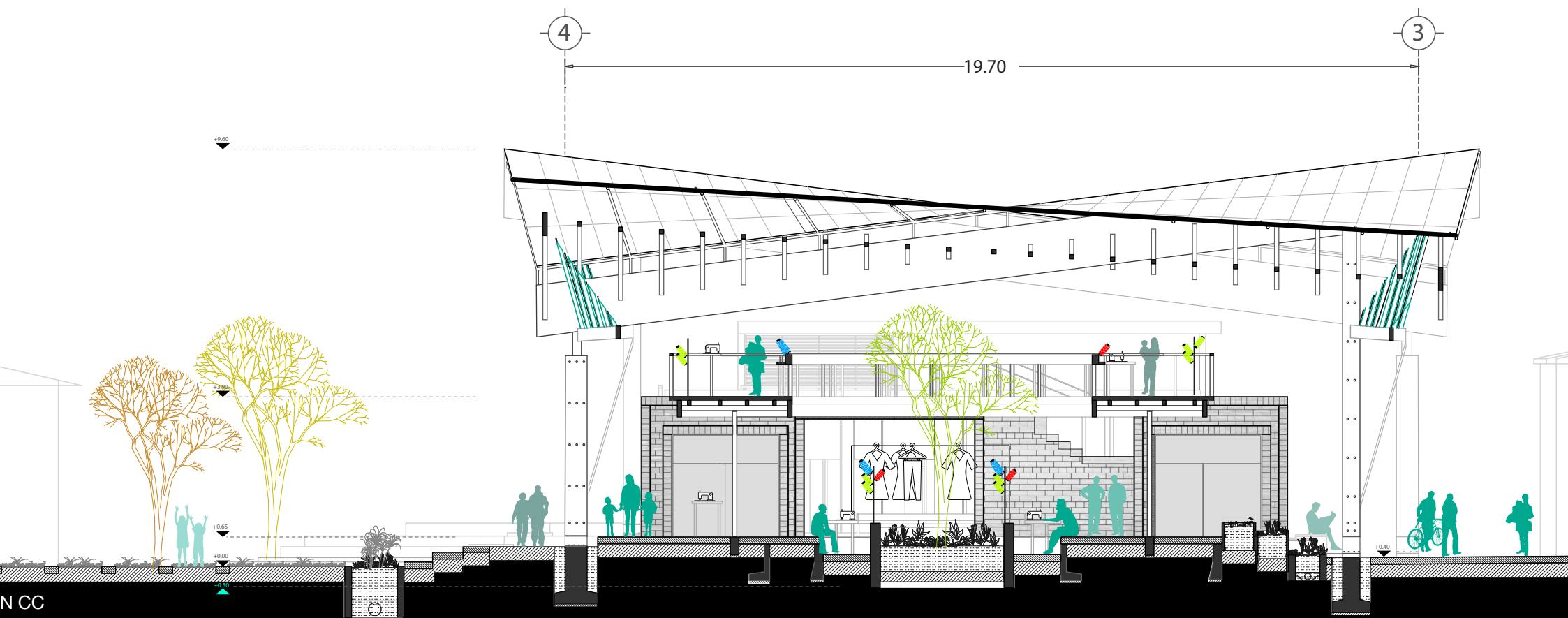
CO-WORKING POD



WORKSHOP POD



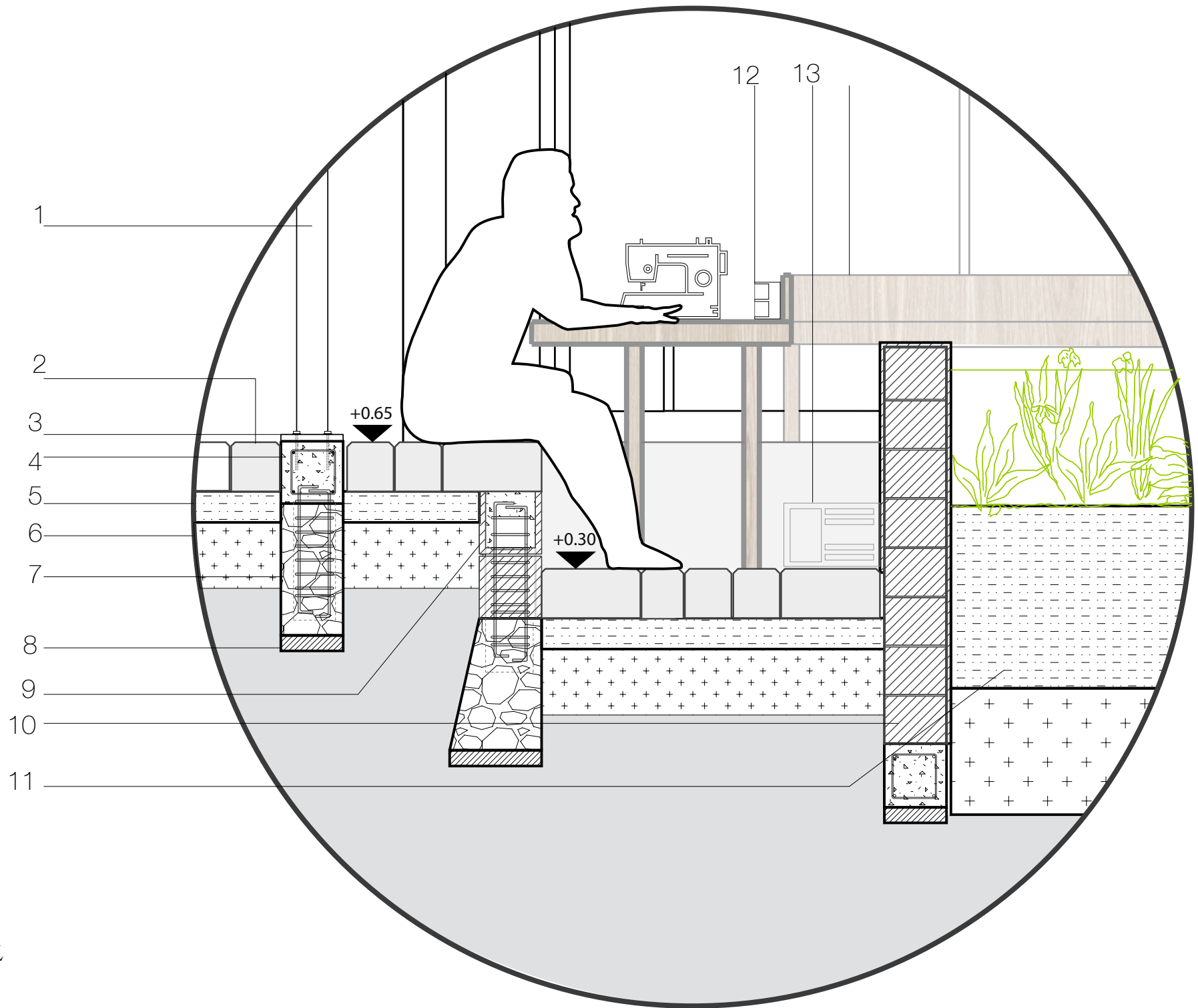
SECTION



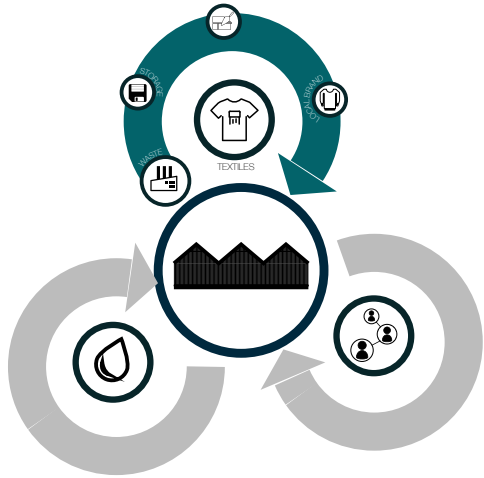
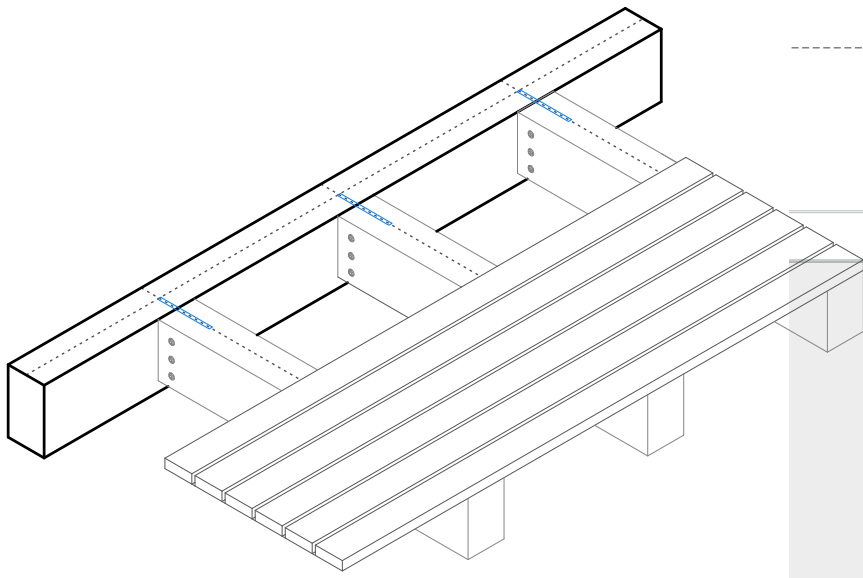


CO-WORKING PODS

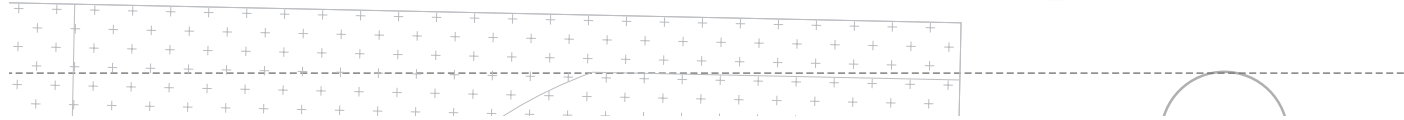
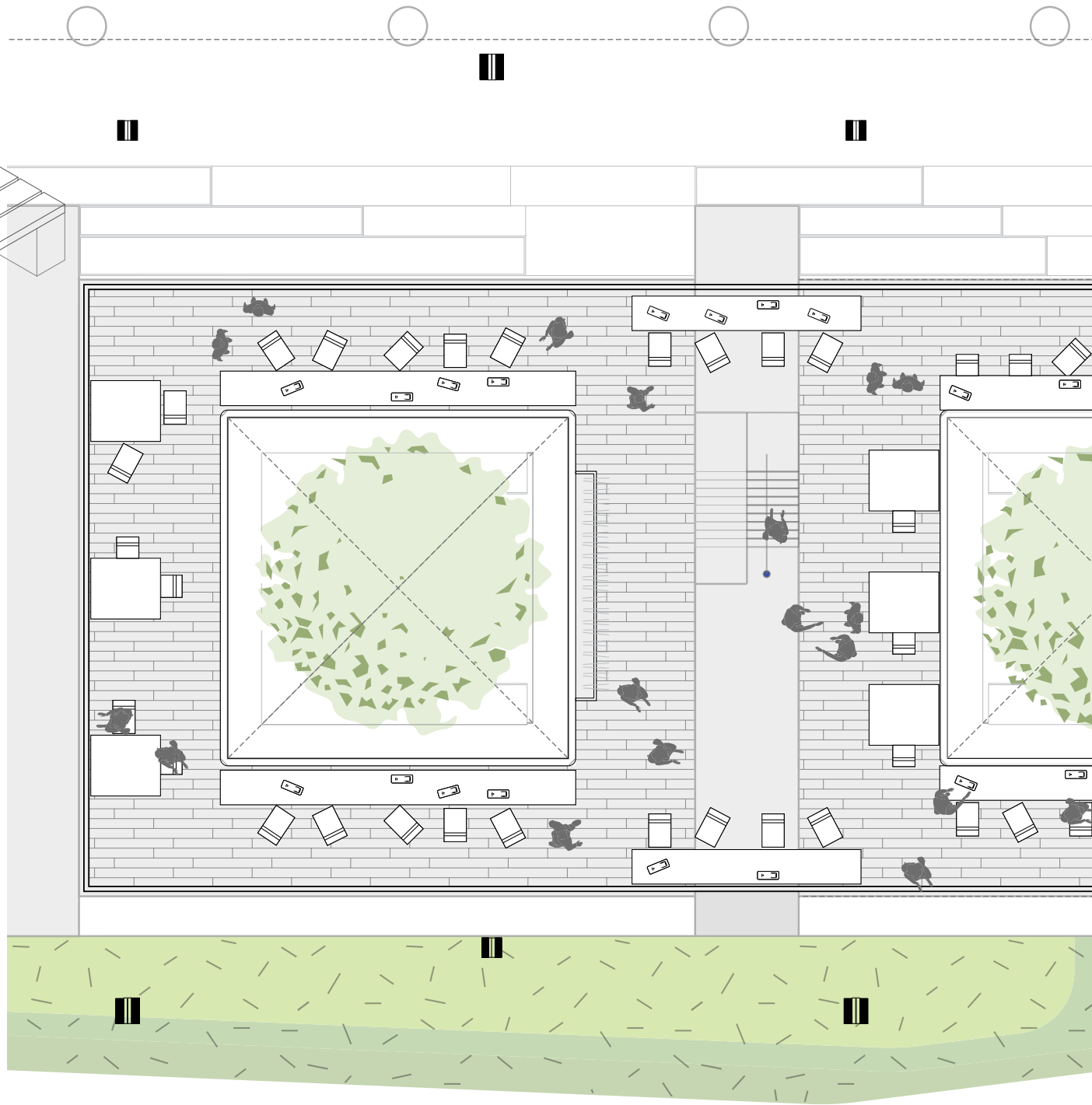
- 1 Tubular steel column 168 x7.11mm for timber frame support of workshops
- 2 Textile-cement paver 100x200x200mm
- 3 Steel plate connection 200x200mm for tubular steel column
- 4 Reinforced concrete foundation header with simple rebar reinforcement 210x210mm
- 5 Compacted sand-layer for paver bedding
- 6 Compacted backfill from in situ soil
- 7 Reinforced stone foundation wall 210x500mm
- 8 Preparation layer, excavated earth,
- 9 Sawed textile-hollow block with reinforced poured concrete for creation of lintel on foundation wall
- 10 Compacted backfill
- 11 Topsoil for planting
- 12 Electrical outlet on table
- 13 Pod switchbox (electrical outlet)



WORKSHOP DETAIL

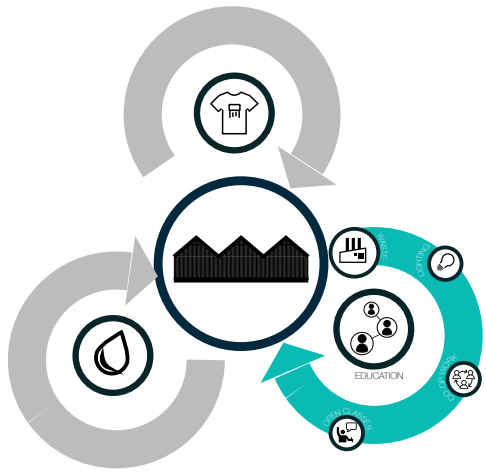


SEWING WORKSHOP POD

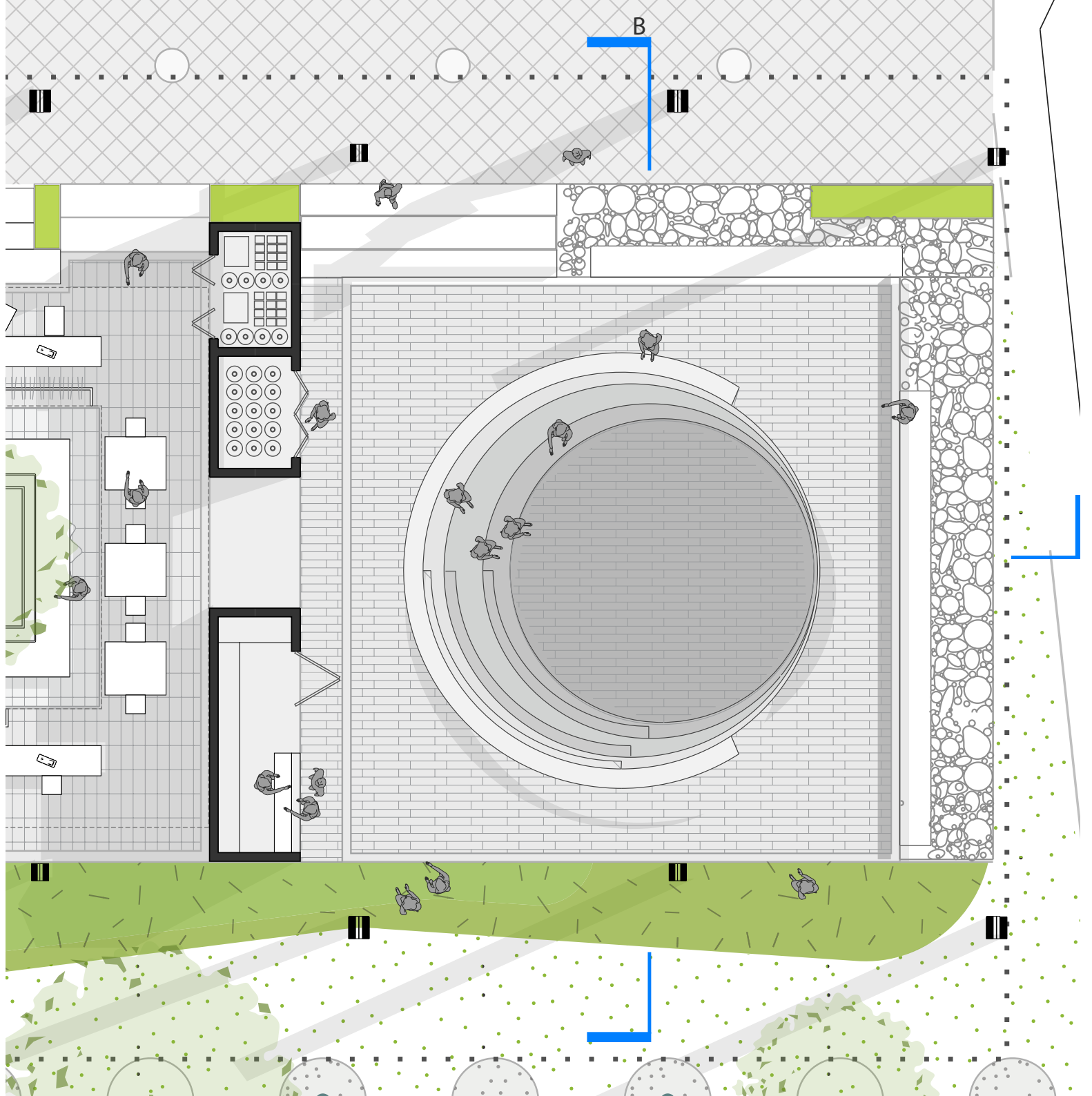


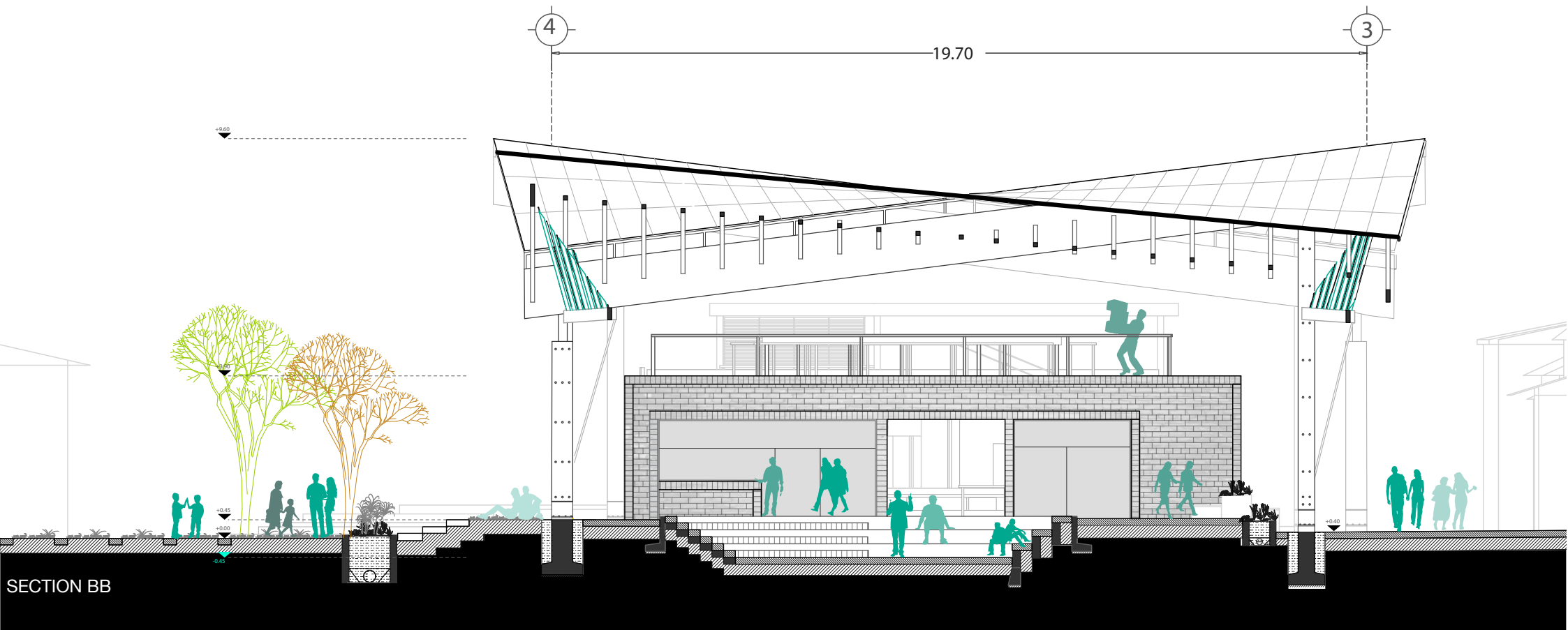


TOP SEWING PODS



OPEN LEARNING





SECTION BB



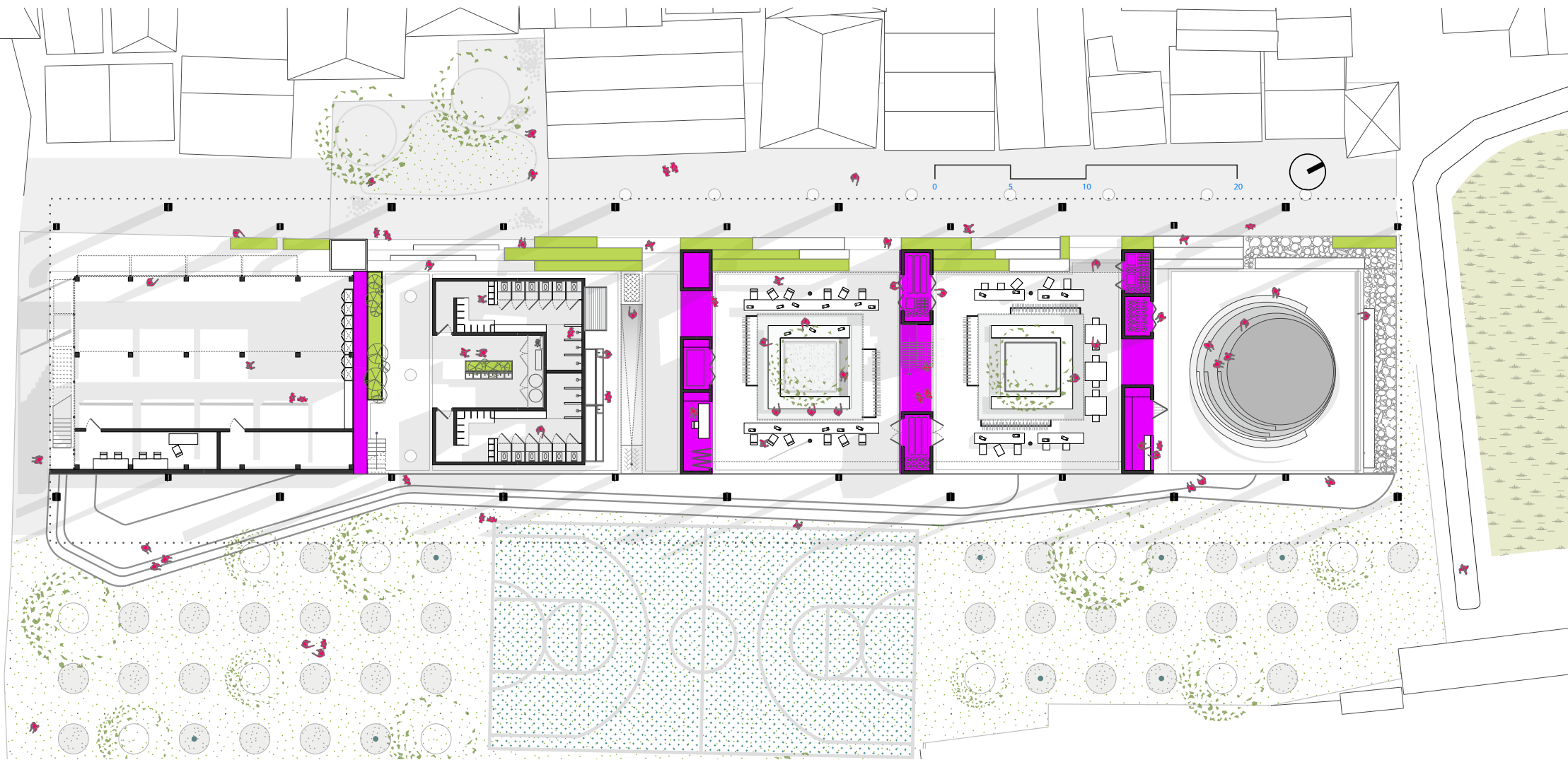
OPEN LEARNING POD

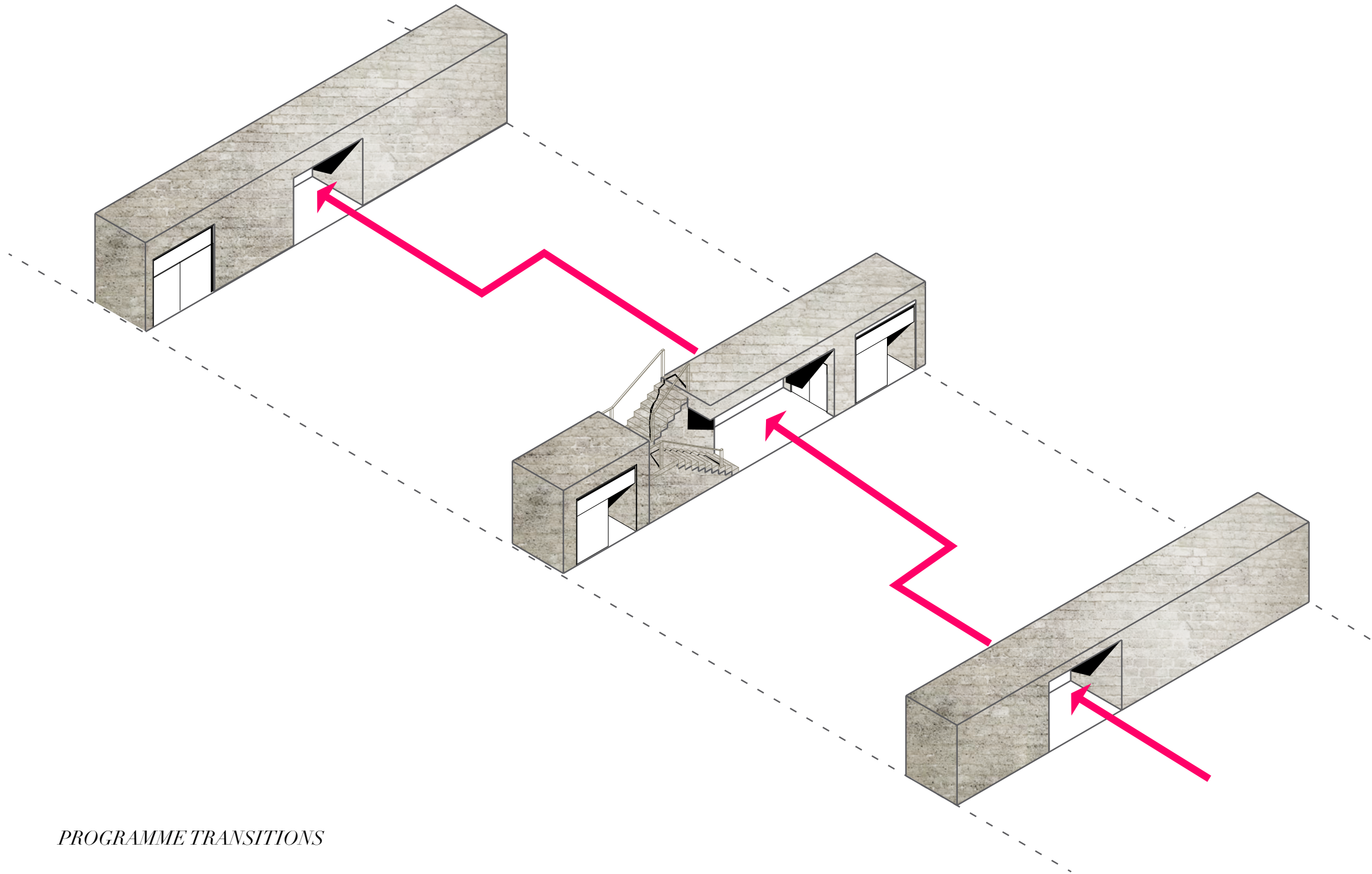
THE TRADITIONAL FUTURE

THE “PURPLE WALLS”

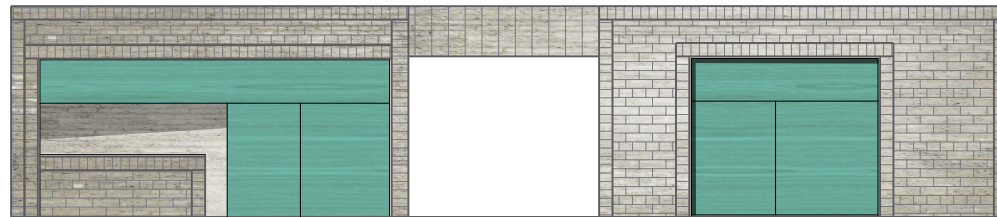
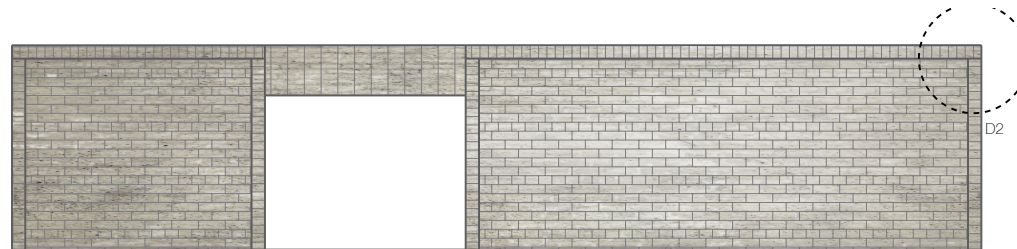
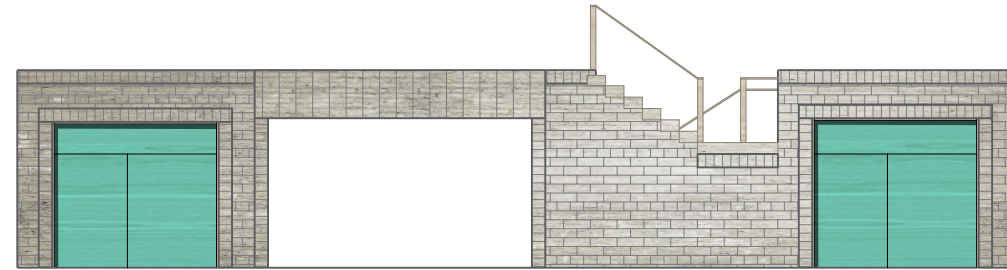
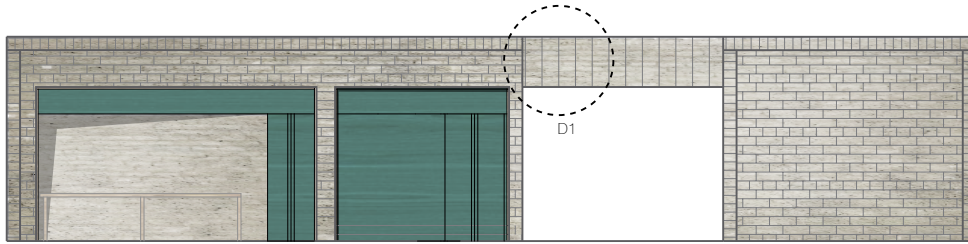
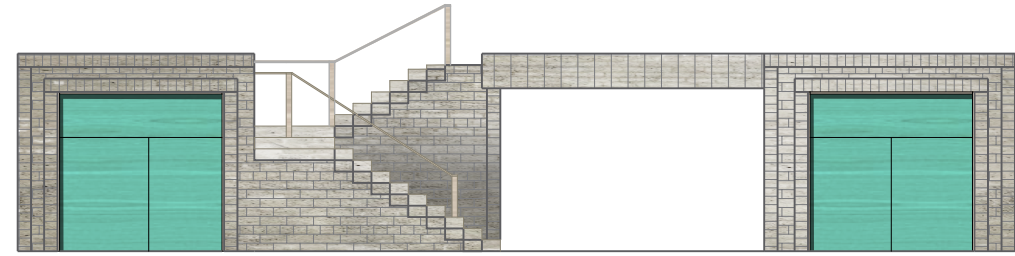
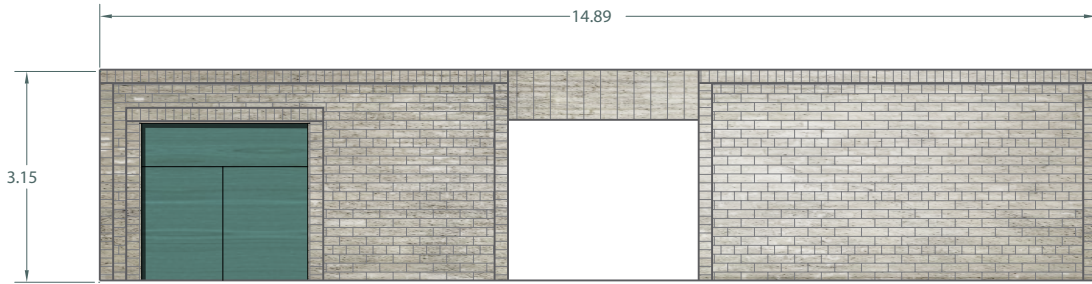
ACTIVITY PARTITION

THE PORTALS



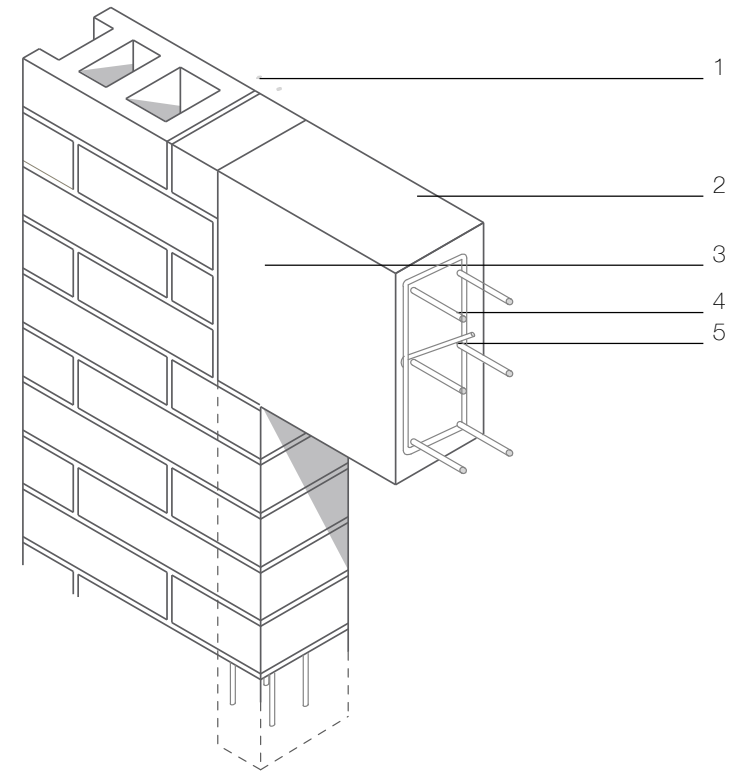
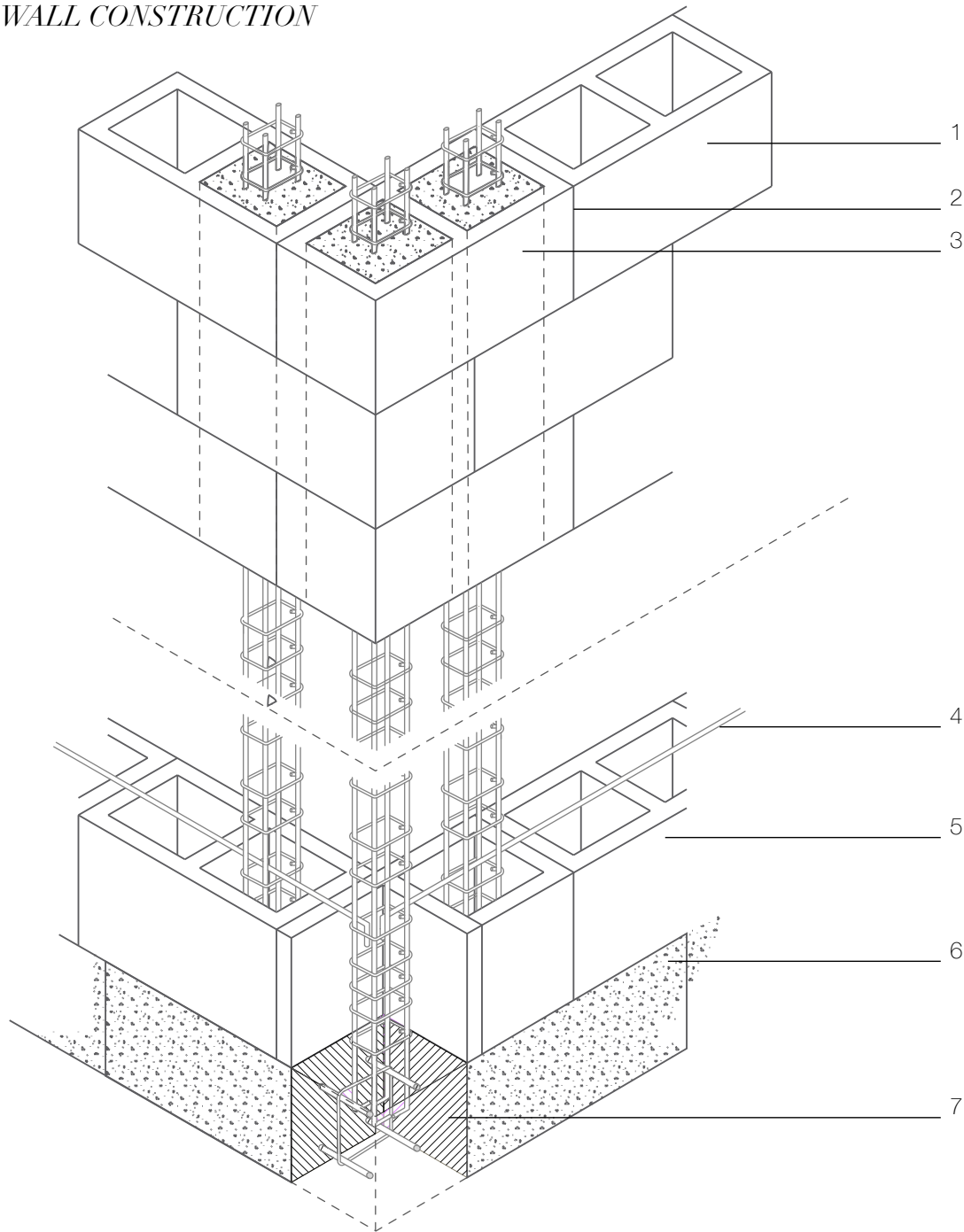


PROGRAMME TRANSITIONS



MATERIALITY

WALL CONSTRUCTION

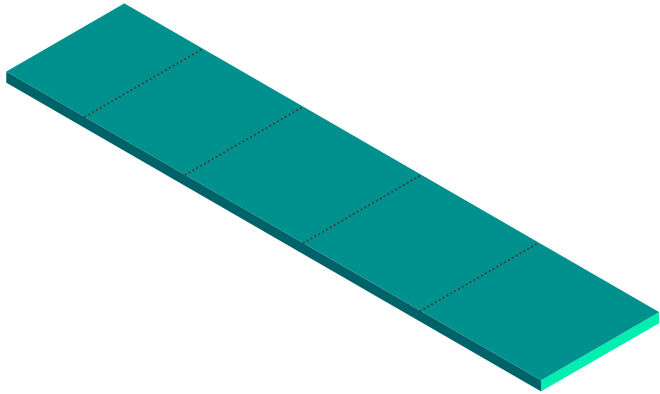


- 1 200x200x400 hollow textile-cement block. 60% recycled textiles (mixed polyester, cotton, acrylic viscose) 30% self-leveling cement 10% lime
- 2 Textile block overlap to form structural corner
- 3 In-block column with rebar reinforcement built in 100x100mm and cement por throughout connection
- 4 Horizontal rebar bracing
- 5 Perimeter stemwall with textile hollow blocks 200x200x400
- 6 Foundation ring pour with horizontal rebar reinforcement
- 7 Rebar connections column-foundation work

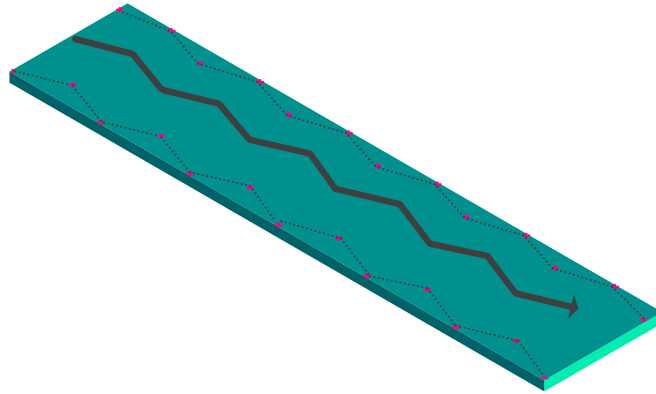
THE TRADITIONAL FUTURE

THE ROOF STRUCTURE

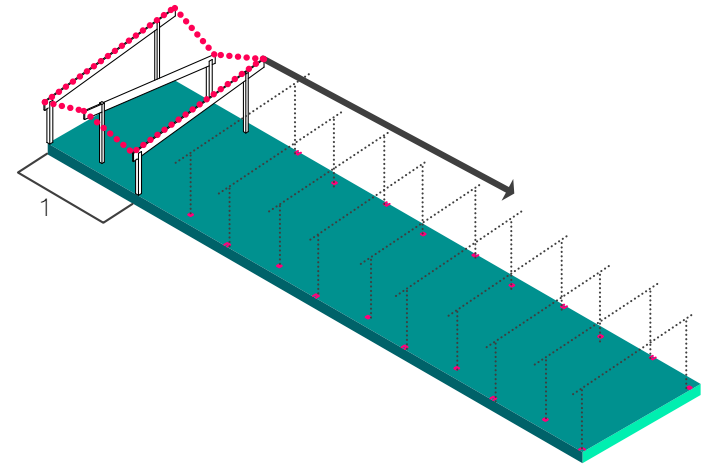
COLUMNS & BEAMS



PROGRAMME

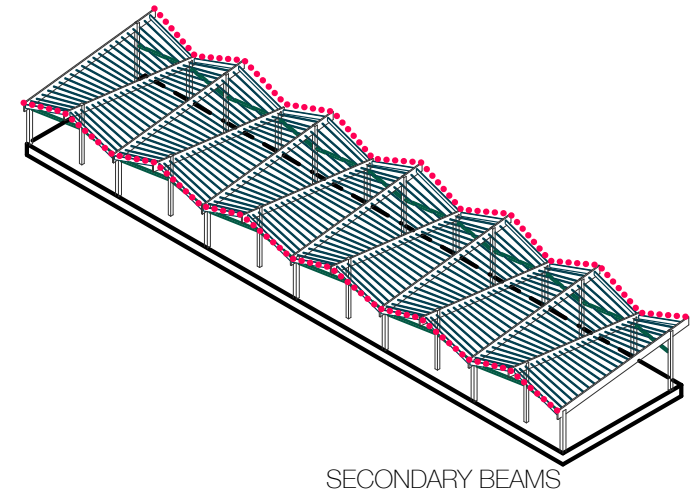
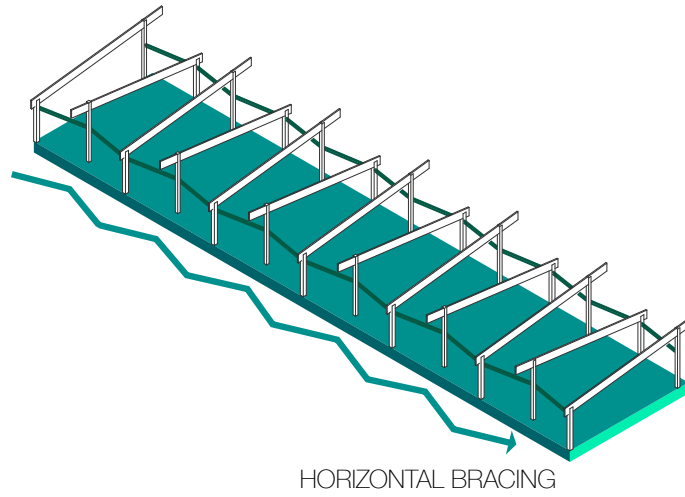
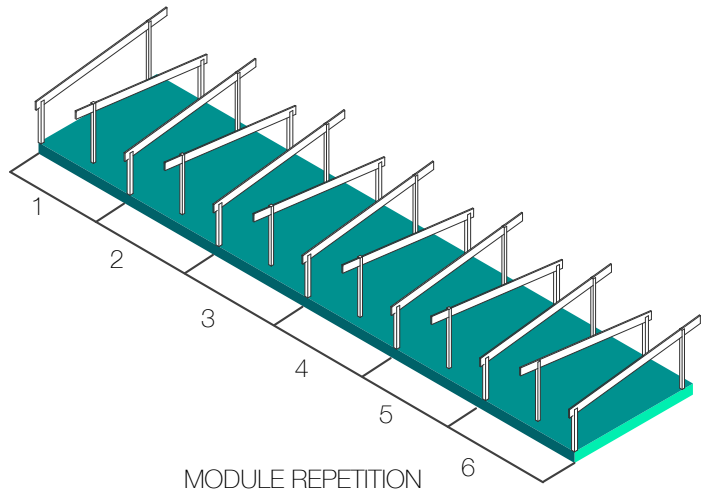


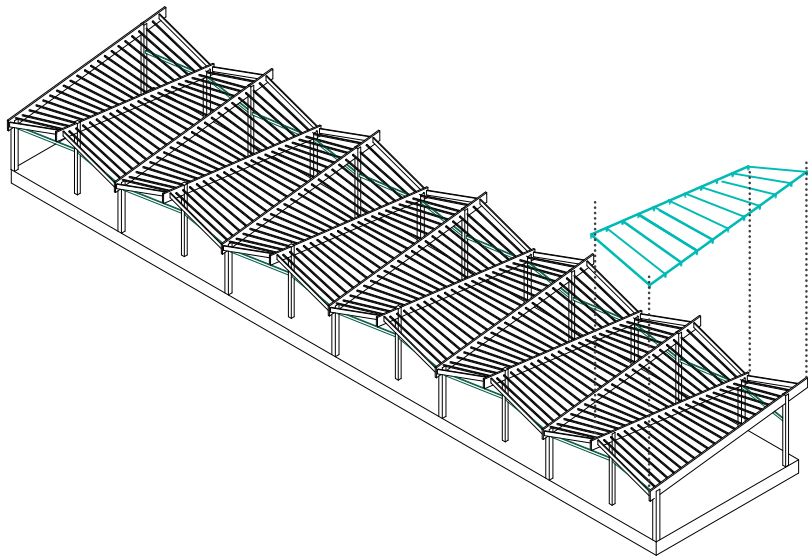
STAGGERED COLUMNS



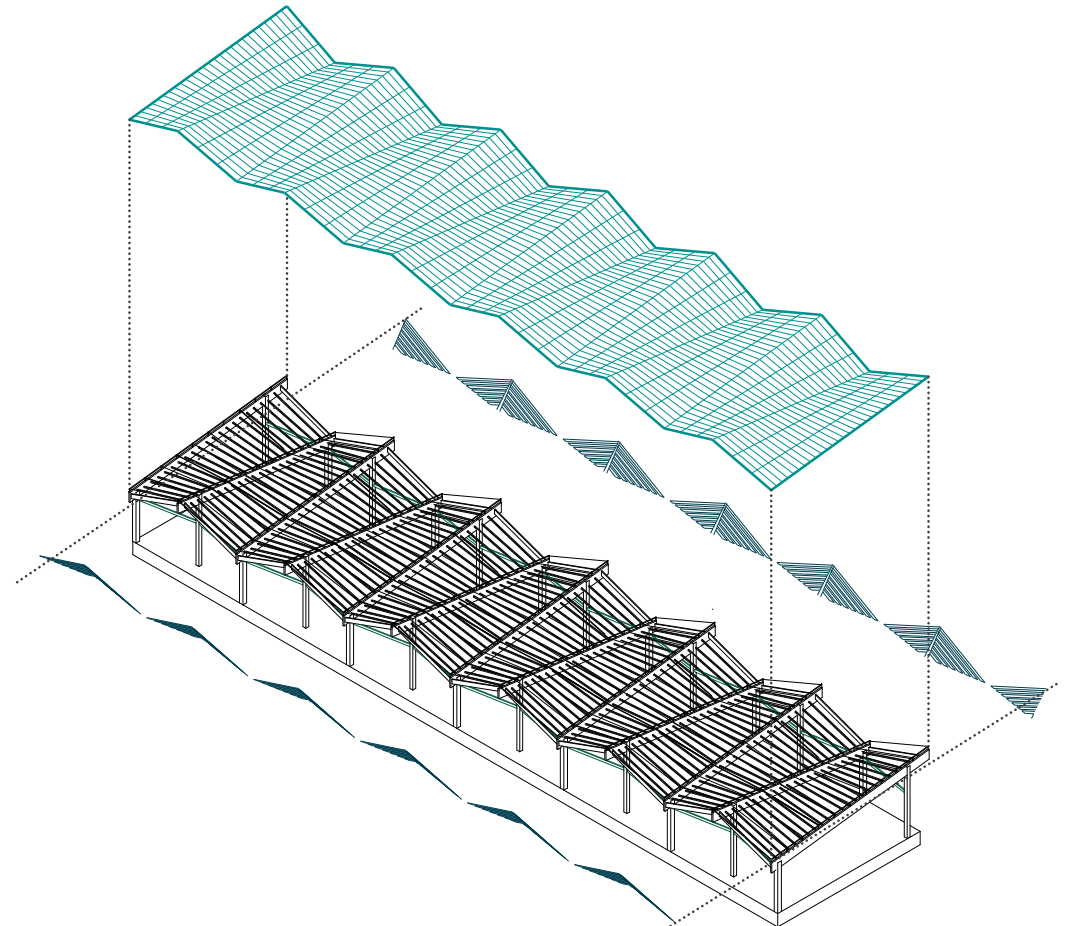
MONOPITCH MODULE

STRUCTURAL CONCEPT

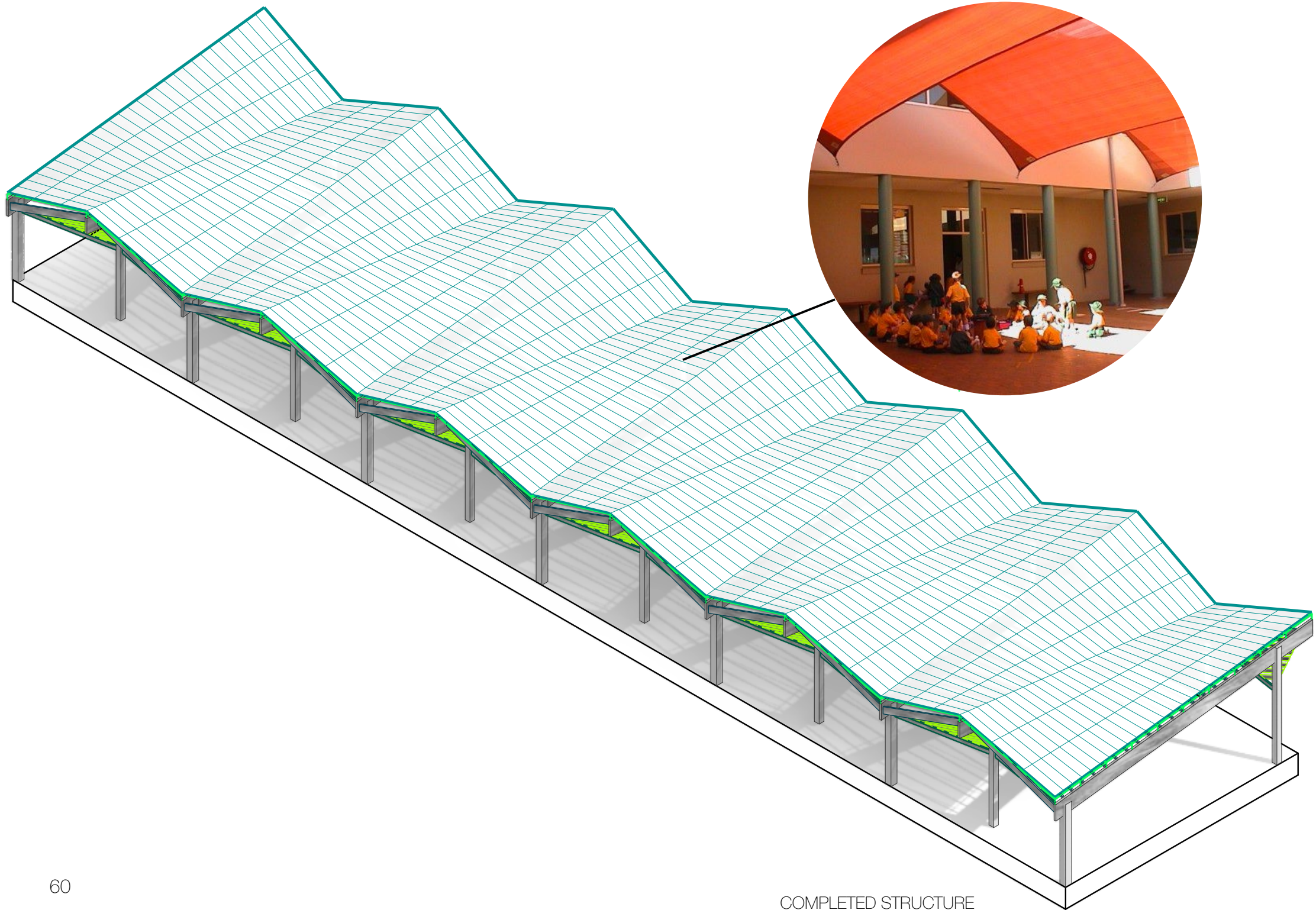




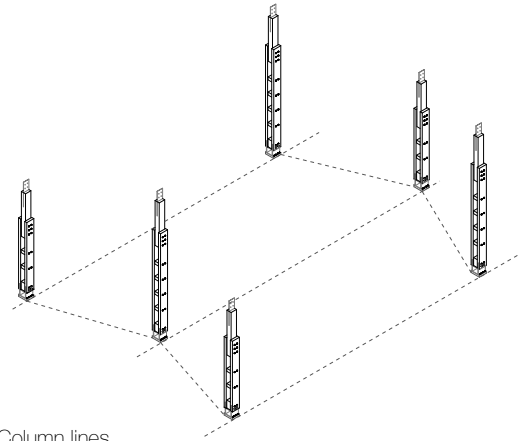
MEMBRANE SUBSTRUCTURE



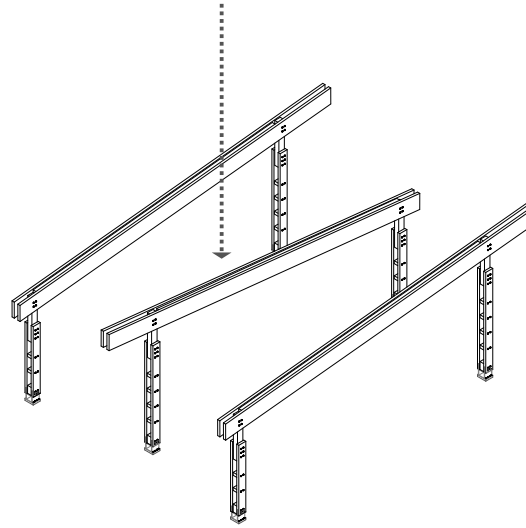
MEMBRANE + SUNSHADING



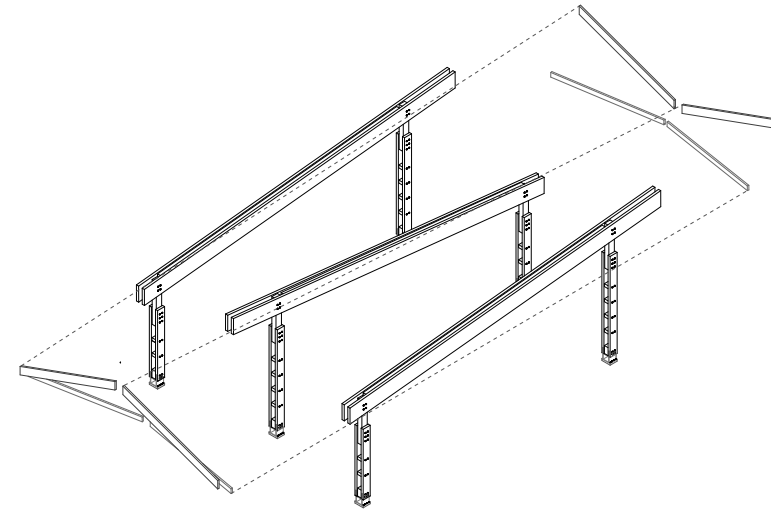
STRUCTURAL MODULE



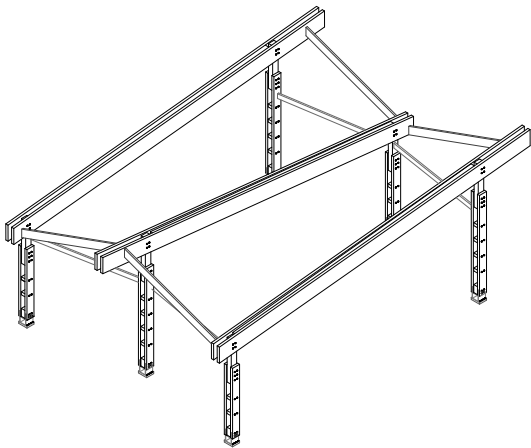
Column lines



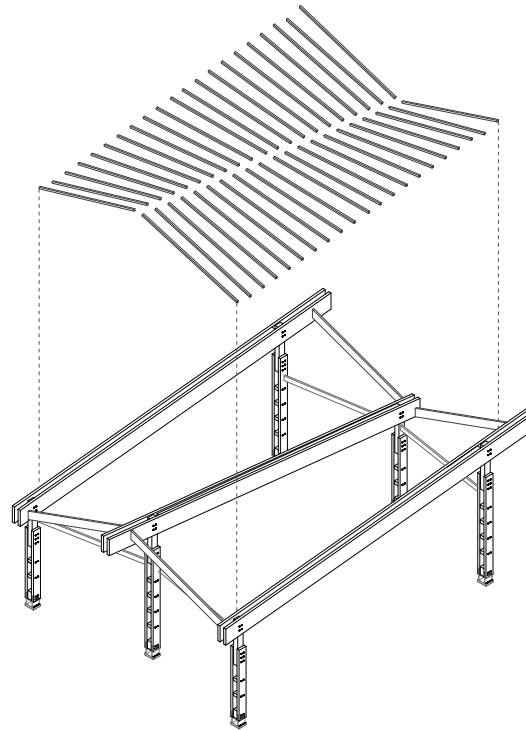
Beam placement



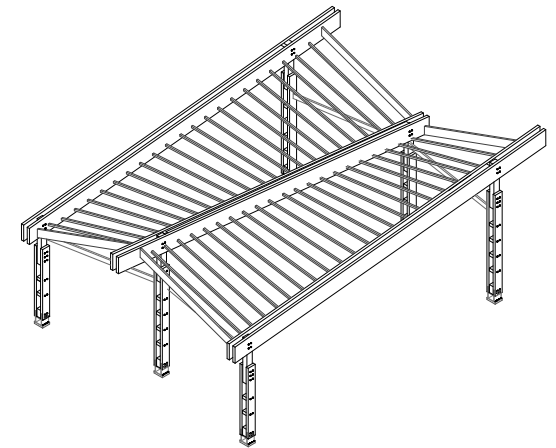
Horizontal bracing



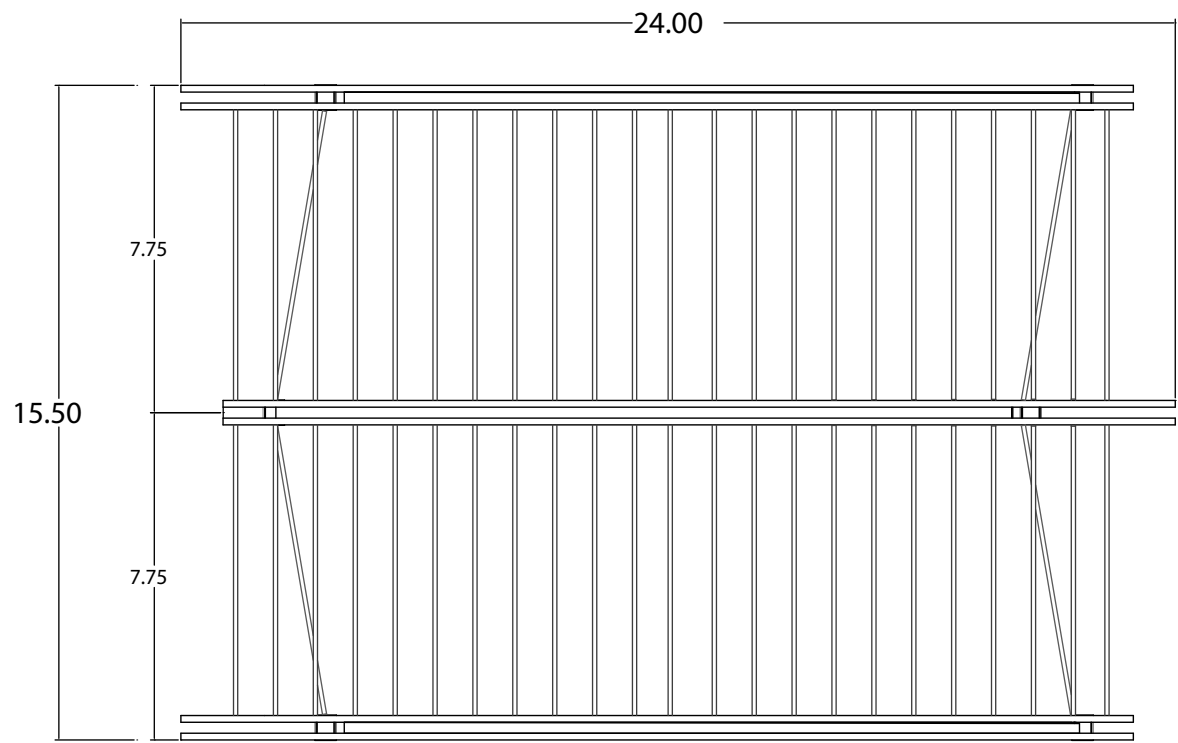
Connection



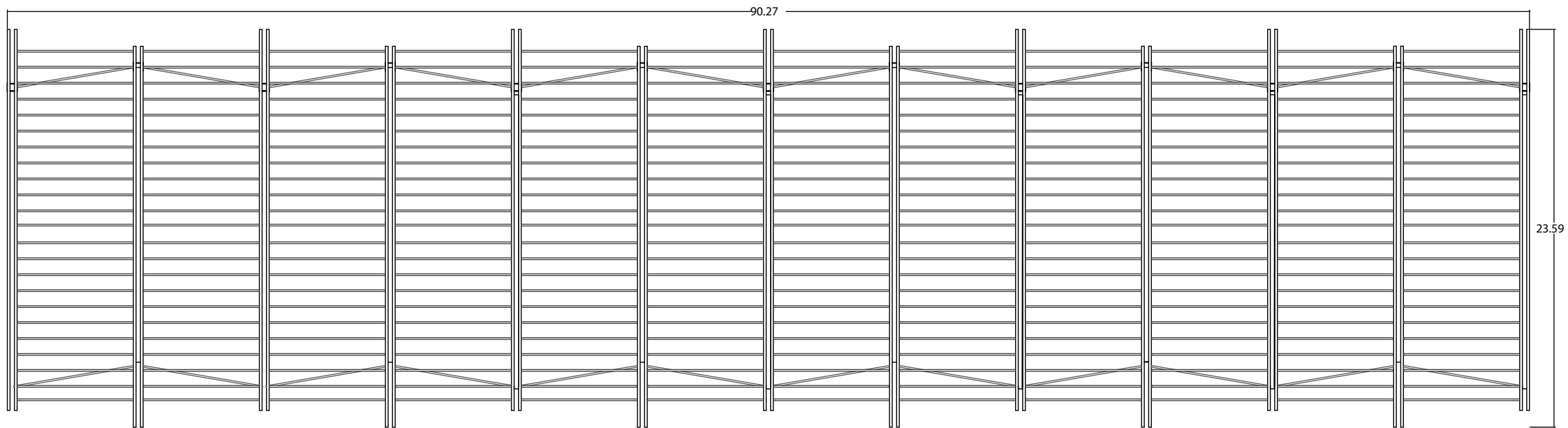
Secondary bracing



Structural module

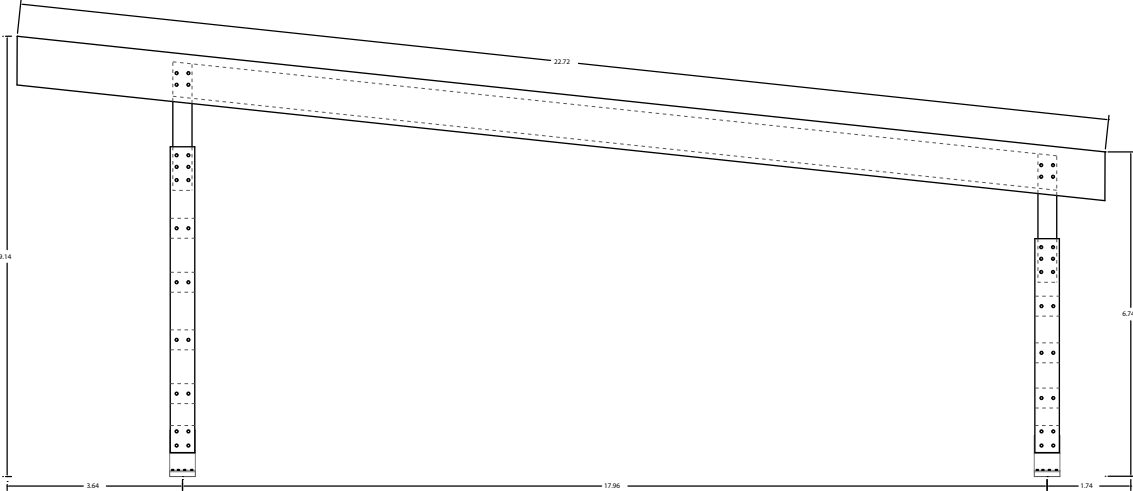


Structural module plan

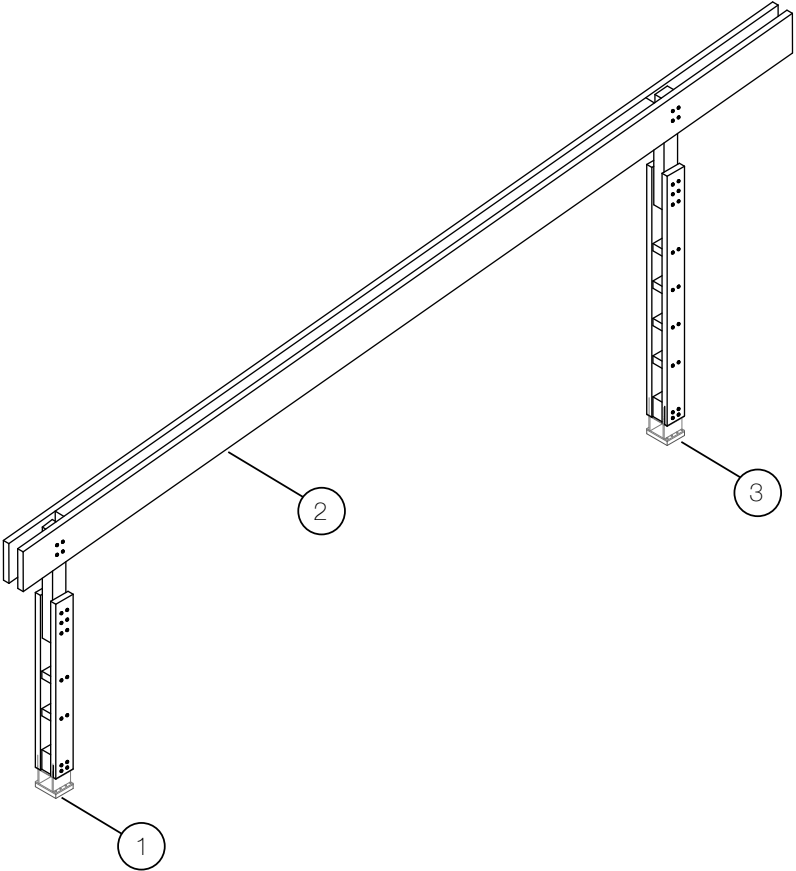


Complete structure plan

BEAMS AND COLUMNS

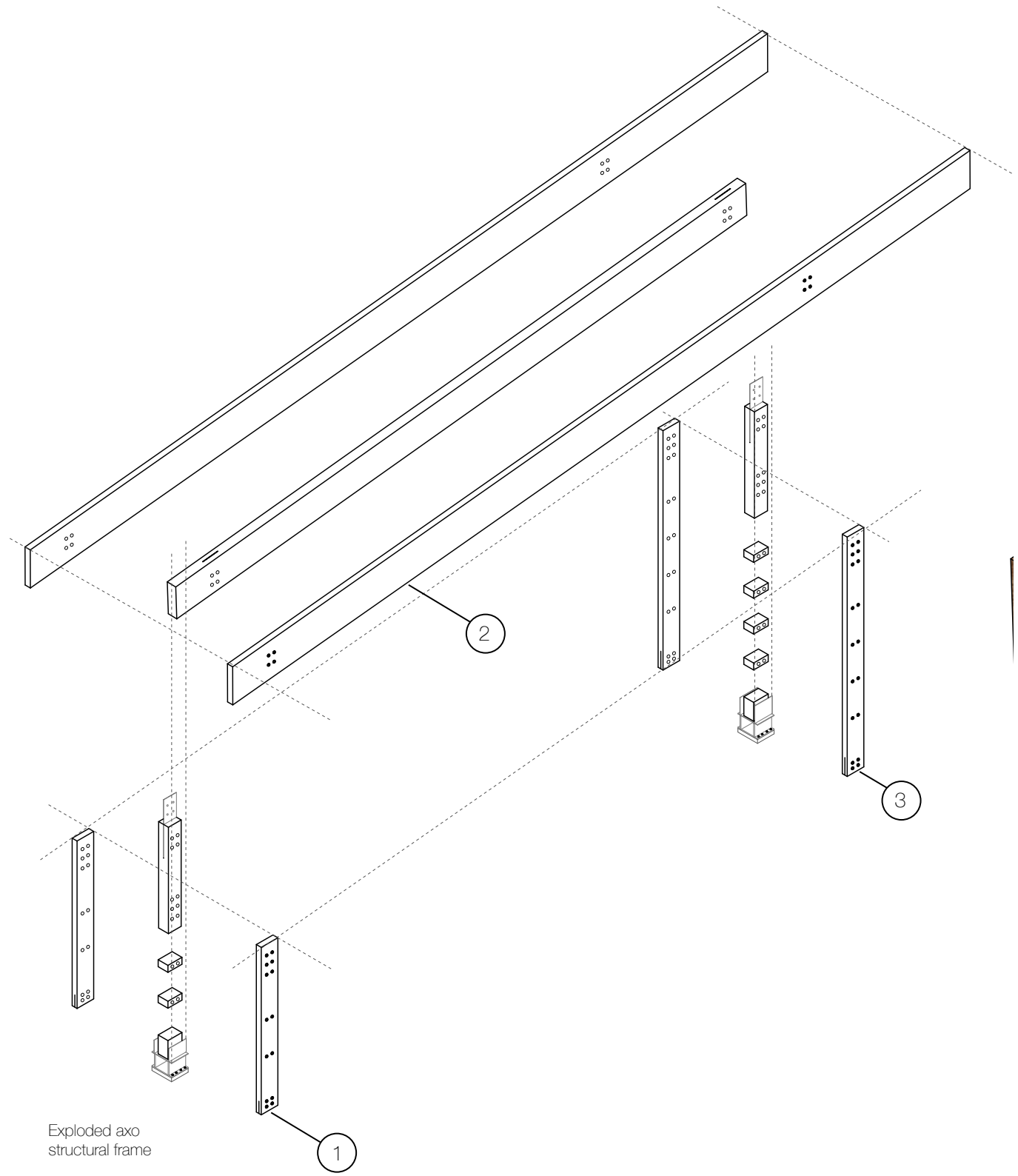
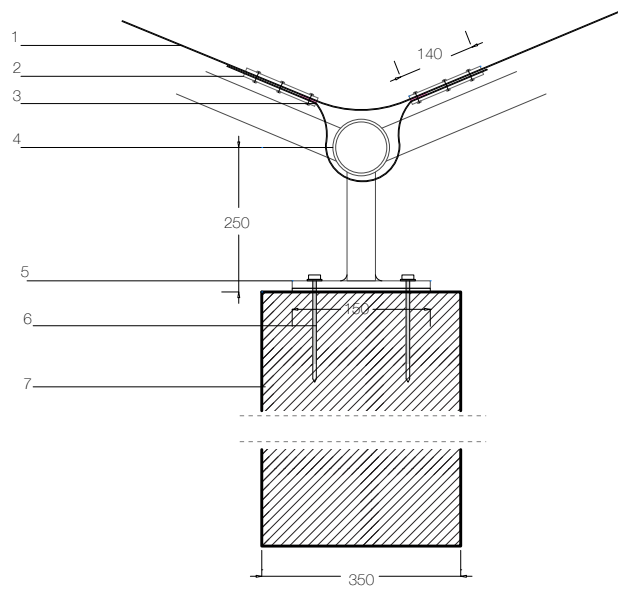


Structural frame

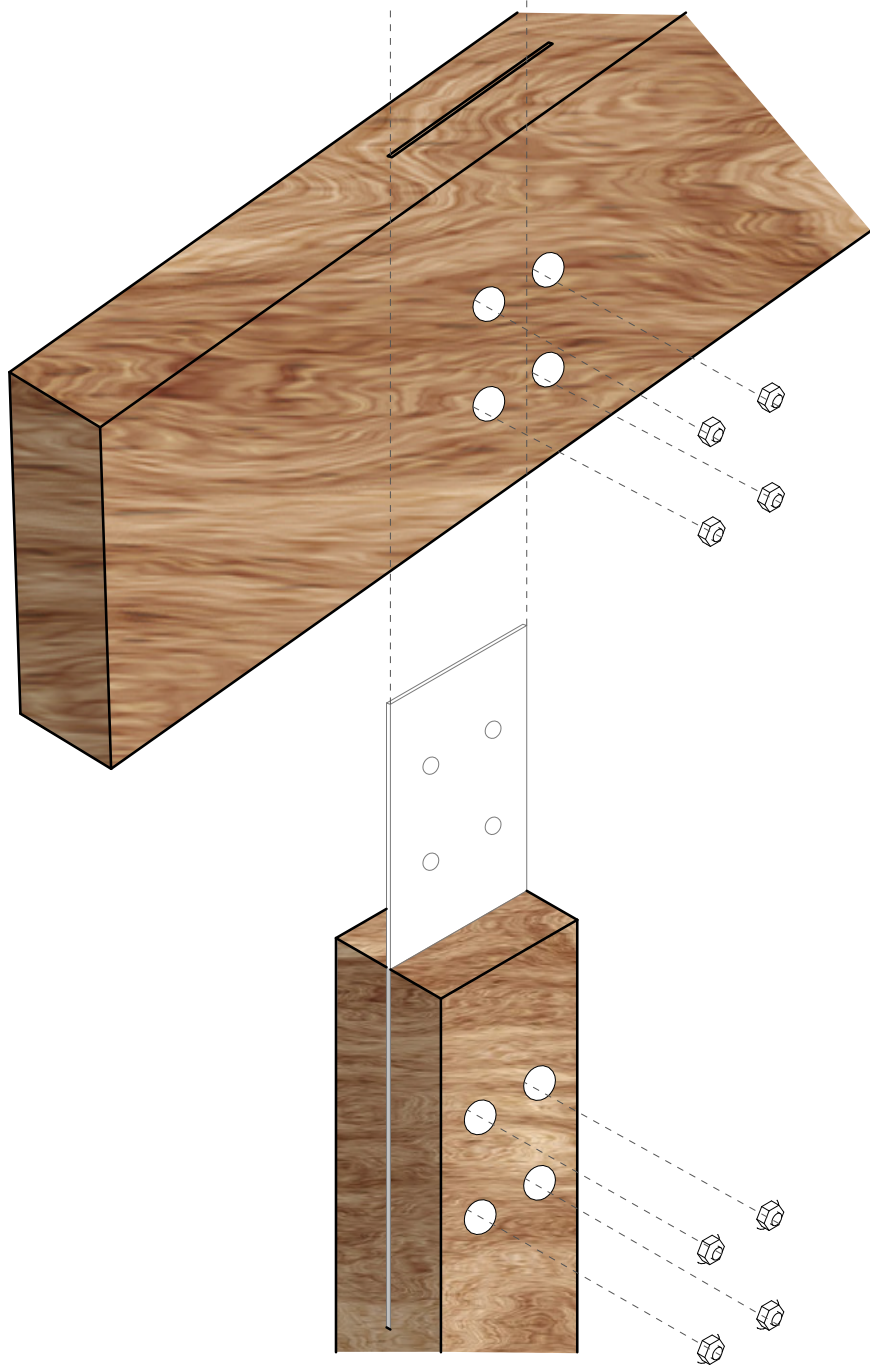


- 1. Three-piece column A
- 2. Three-piece beam
- 3. Three-piece column B

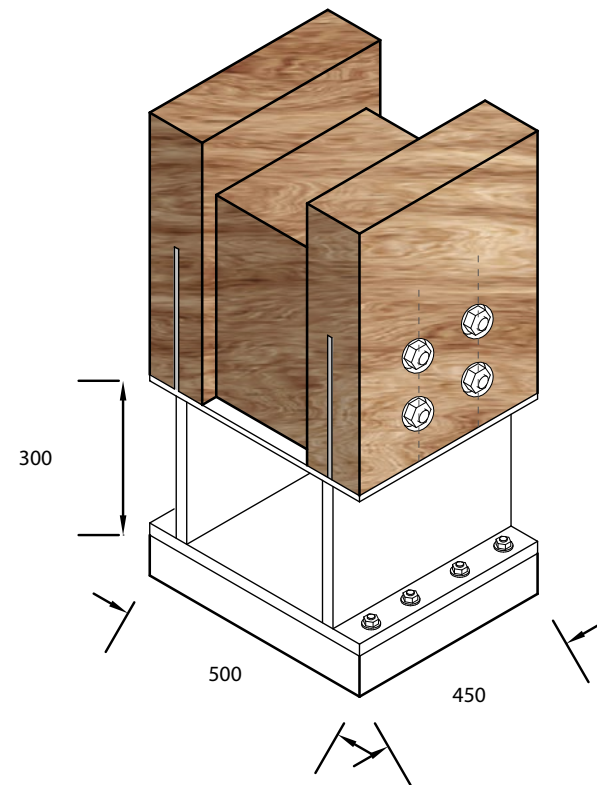
- 1 Compound glulam Mengkuland timber LVL with steel rivetting 200x500mm
- 2 Compound glulam Mengkuland timber LVL connection piece for three-piece column 350x500mm
- 3 Steel hexagonal screw for fixation
- 4 Upper steel base plate 30x500x750mm
- 5 Middle steel plates for base connection 30x500x300mm
- 6 Bottom steel base plate 40x500x750mm
- 7 Steel hexagonal connection base to foundation
- 8 Above-ground grout header for foundation wall connection



Exploded axo structural frame



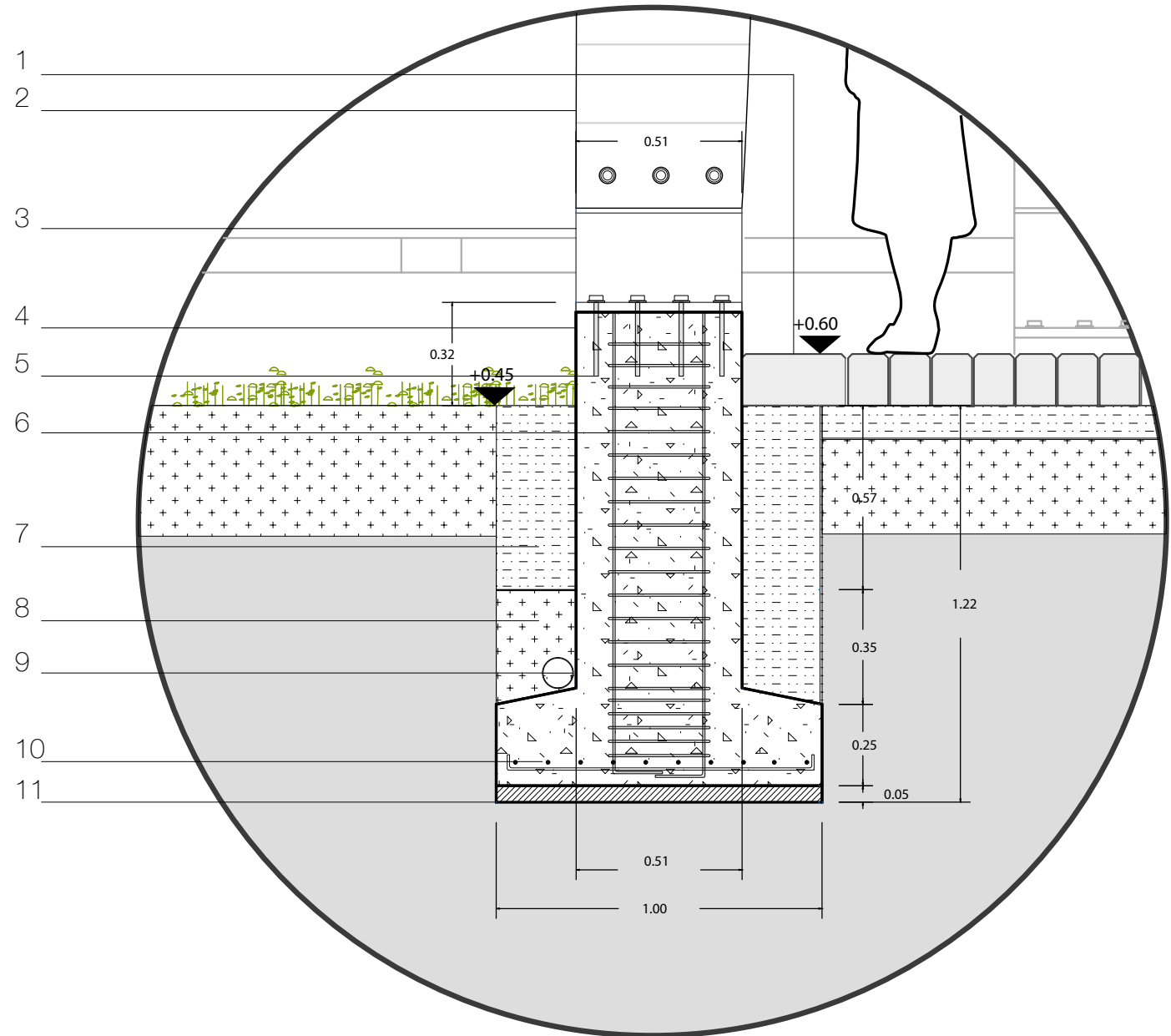
Beam and column connection



Base connection (to foundation)

CONNECTION DETAILS

- 1 Textile-cement paver 100x200x200mm
- 2 Compound glulam three-piece column 750x500mm Mengkulang timber LVL with internal steel plate for foundation connection
- 3 Four-piece steel plate connection 750x500x400mm
- 4 Reinforced poured concrete foundation wall 510x510mm with No.4 anchoring rebar
- 5 Anchor bolts into foundation wall
- 6 Steel rebar reinforcement 250x250mm
- 7 Compacted earth backfill
- 8 Fine gravel fill for drainage pipe
- 9 6" HDPE perforated drain pipe on foundation
- 10 Footing foundation rebar grid reinforcement
- 11 Preparation layer, excavated earth, cement, water.



THE TRADITIONAL FUTURE

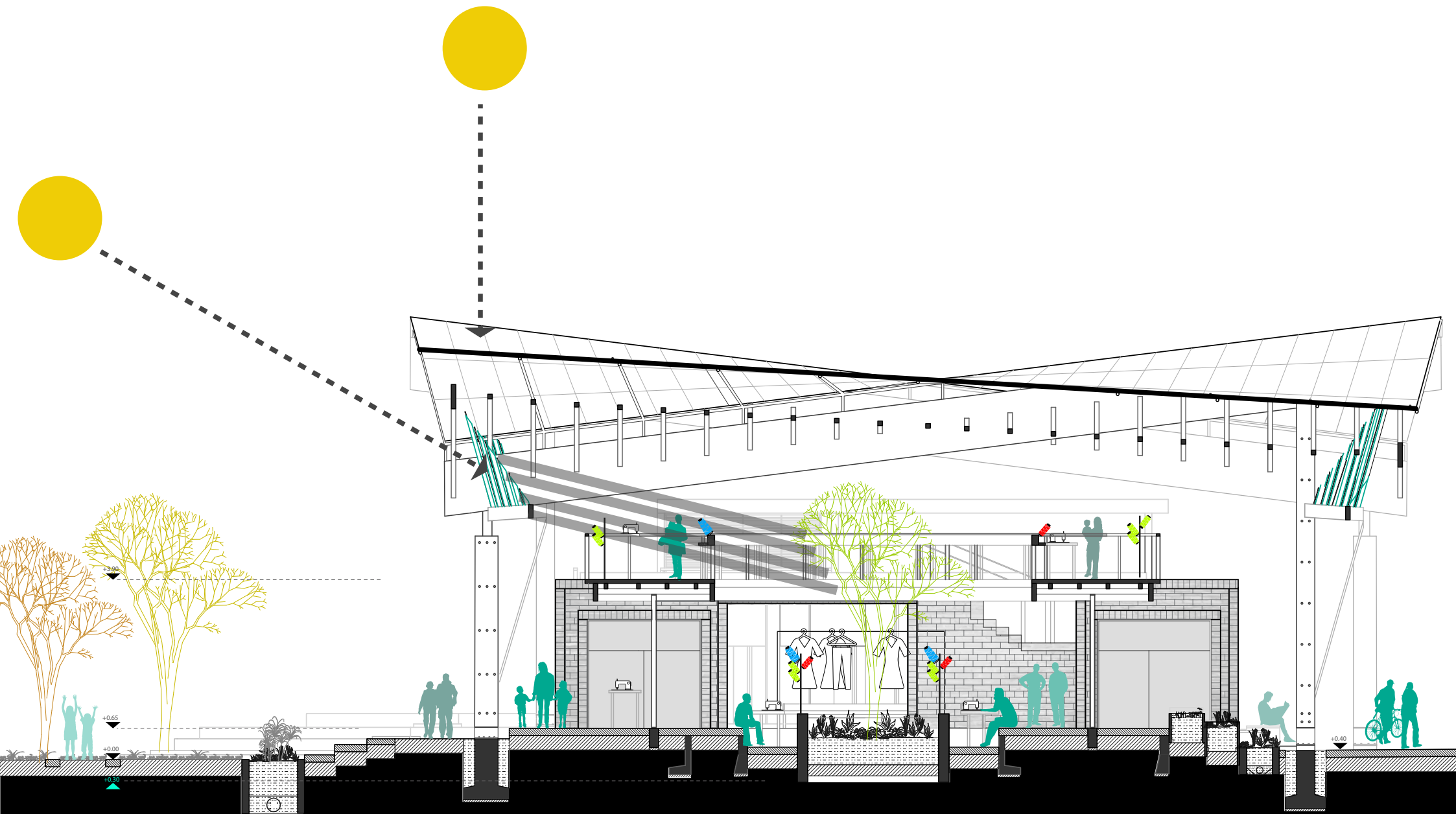
SUN AND WATER

THE FUNCTIONAL LANDSCAPE

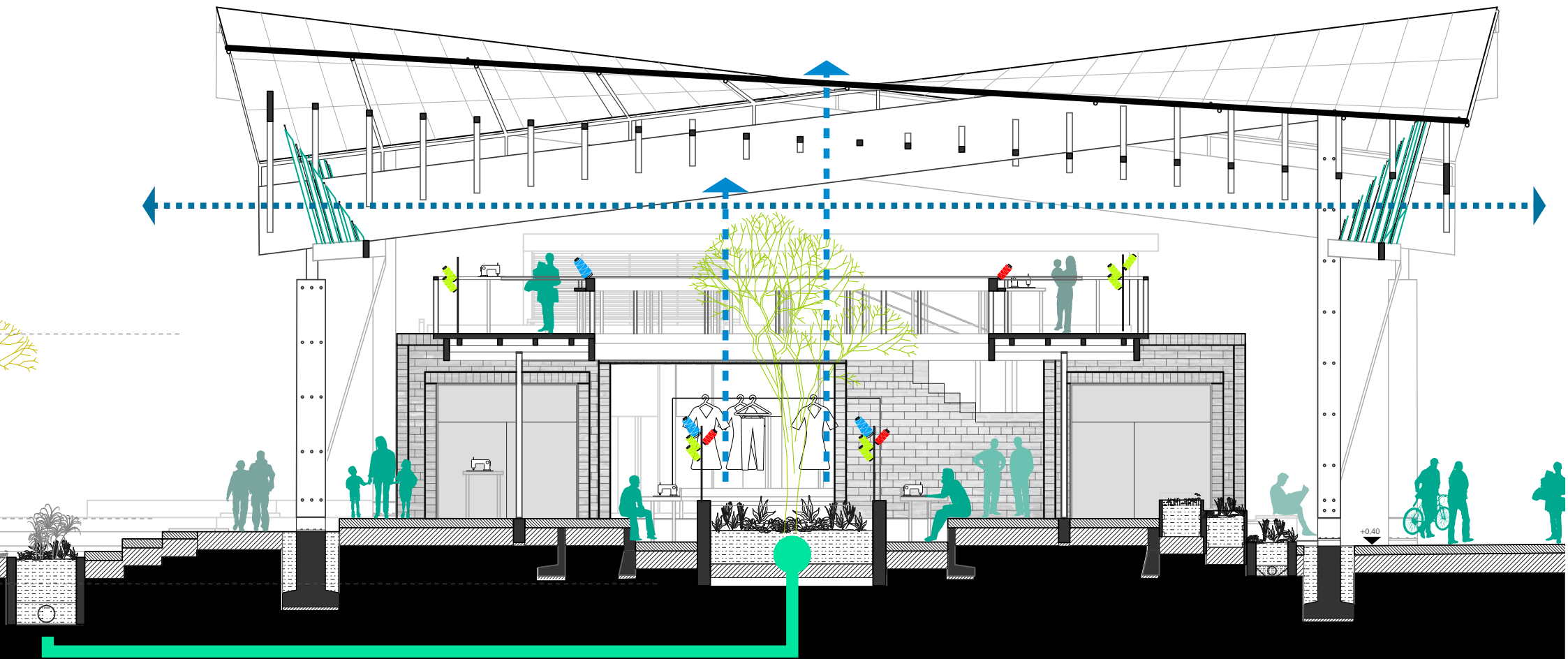
SHADING + STRUCTURE

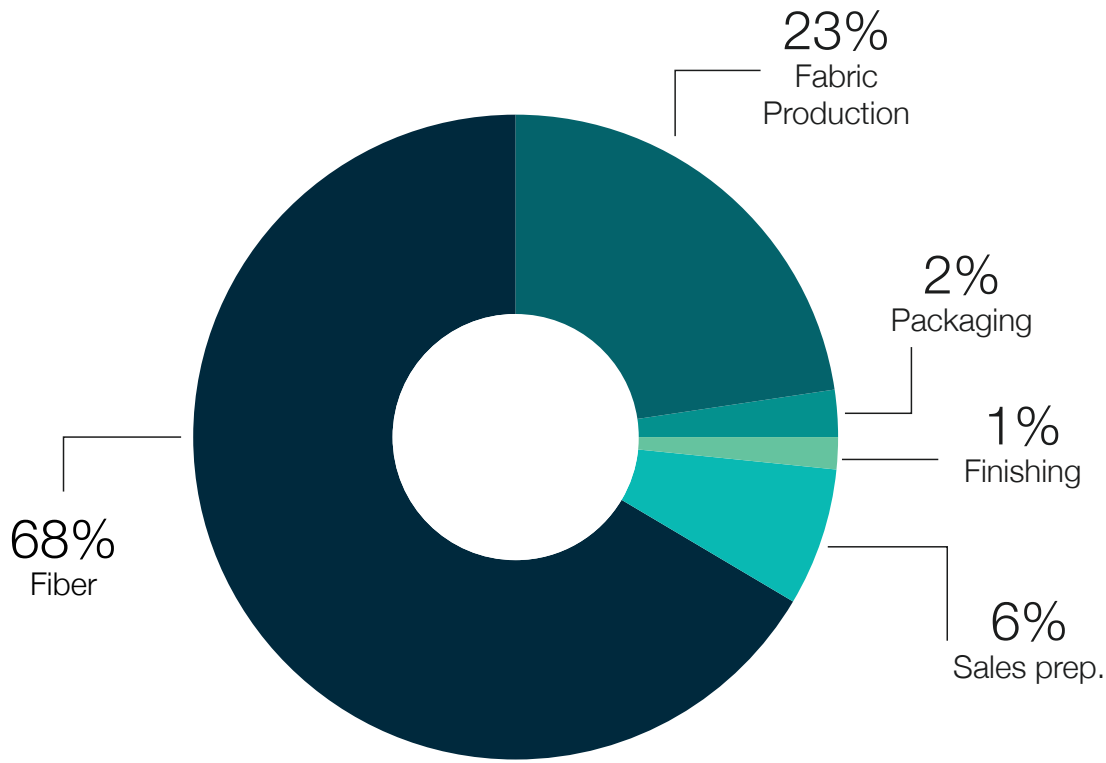


SUN SHADING

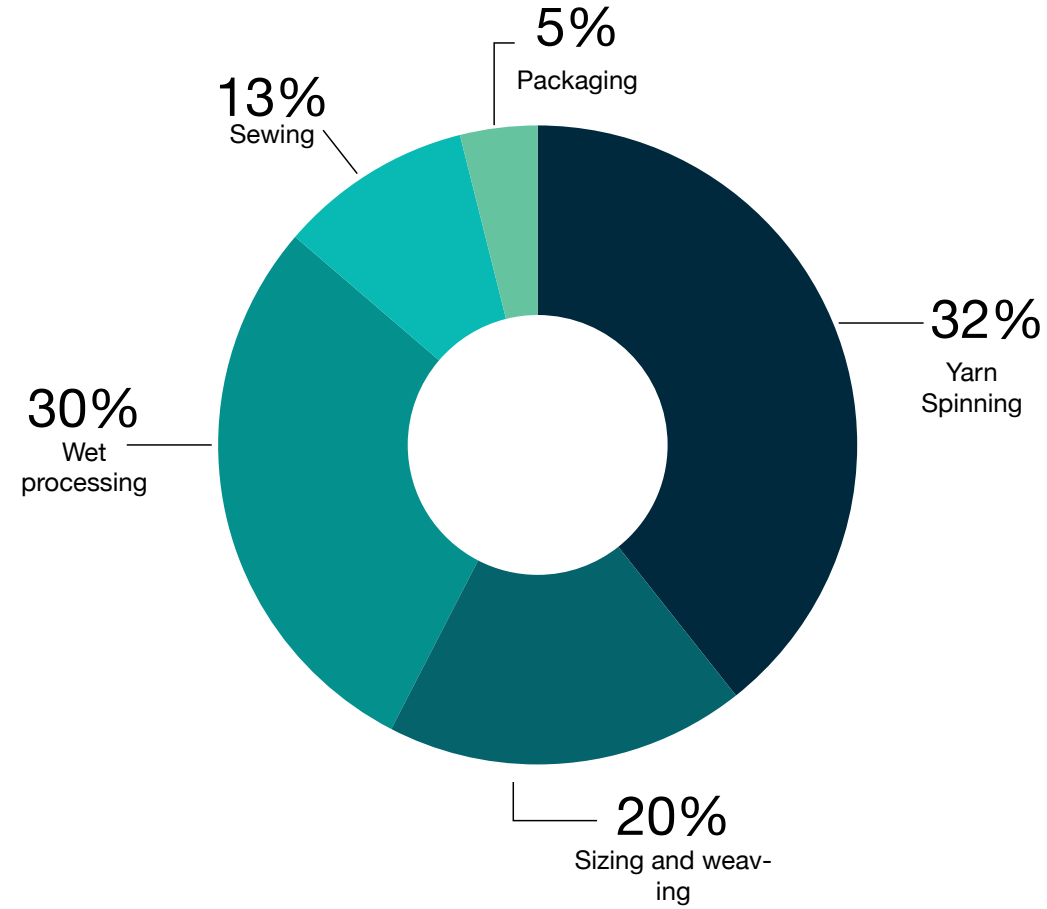


VENTILATION + COOLING



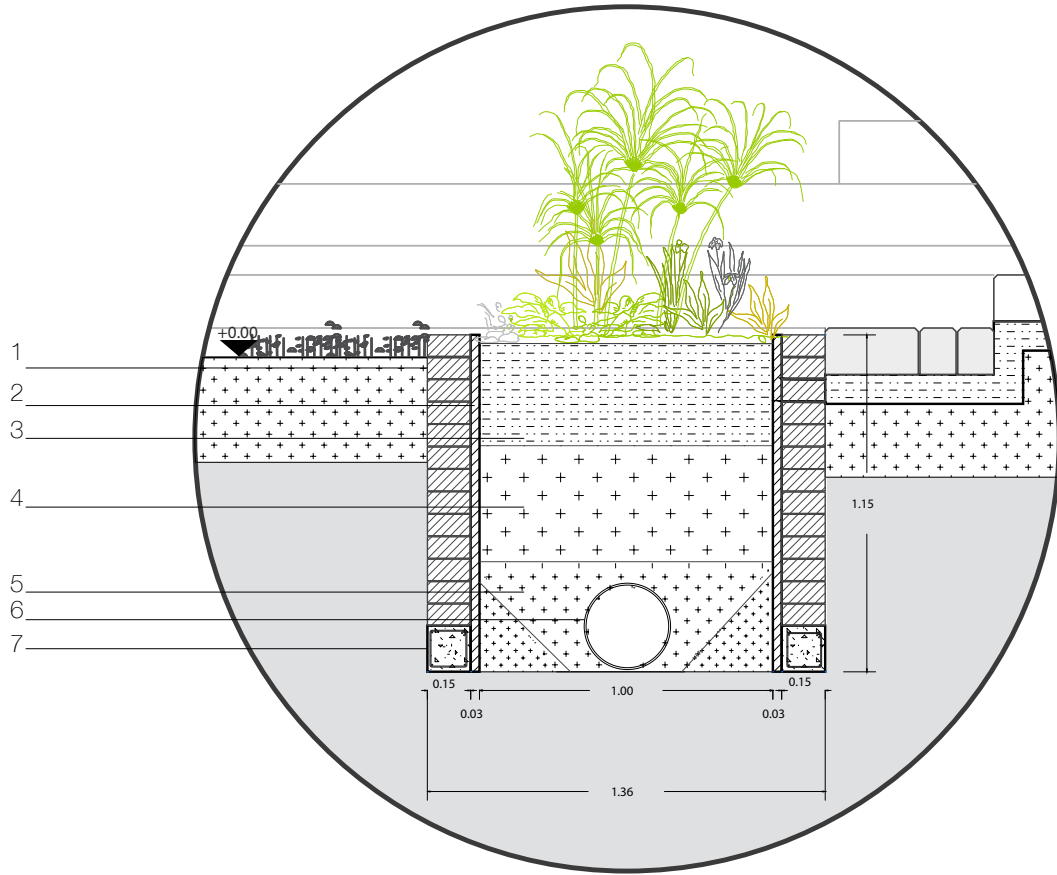


ENERGY EXPENDED

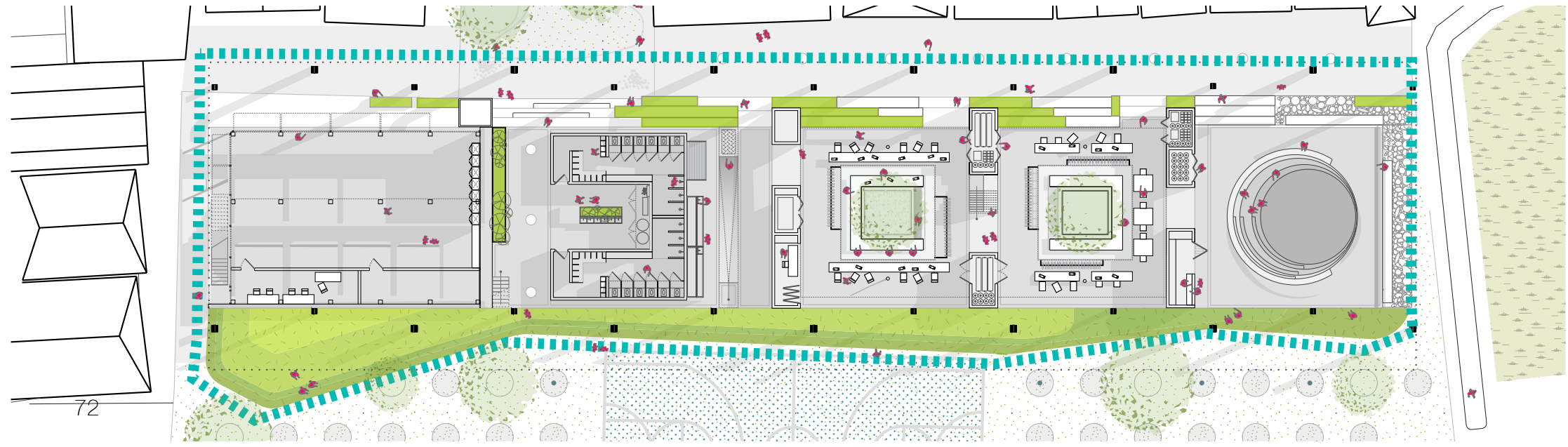


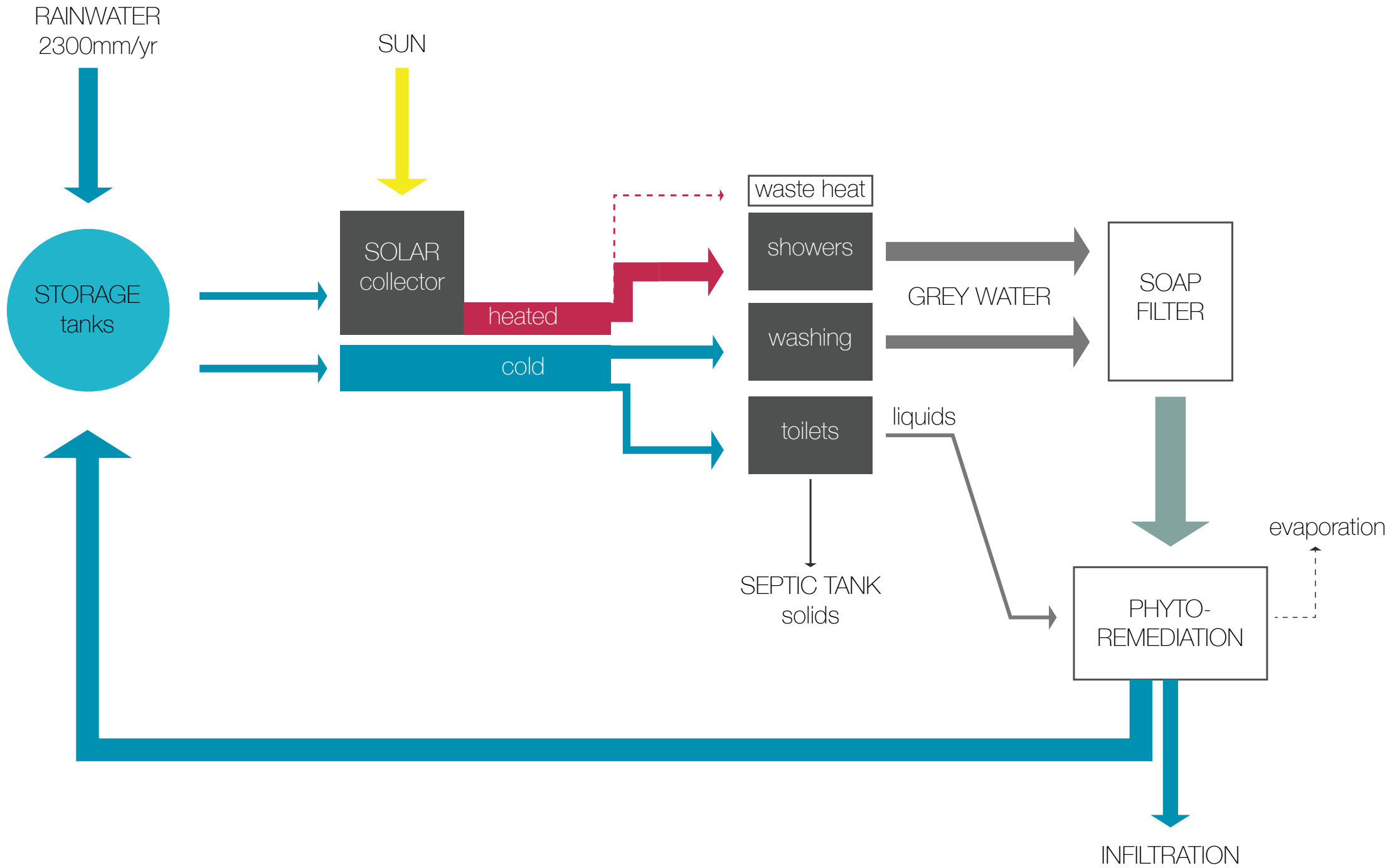
WATER USAGE

PERIMETER WATER CATCHING



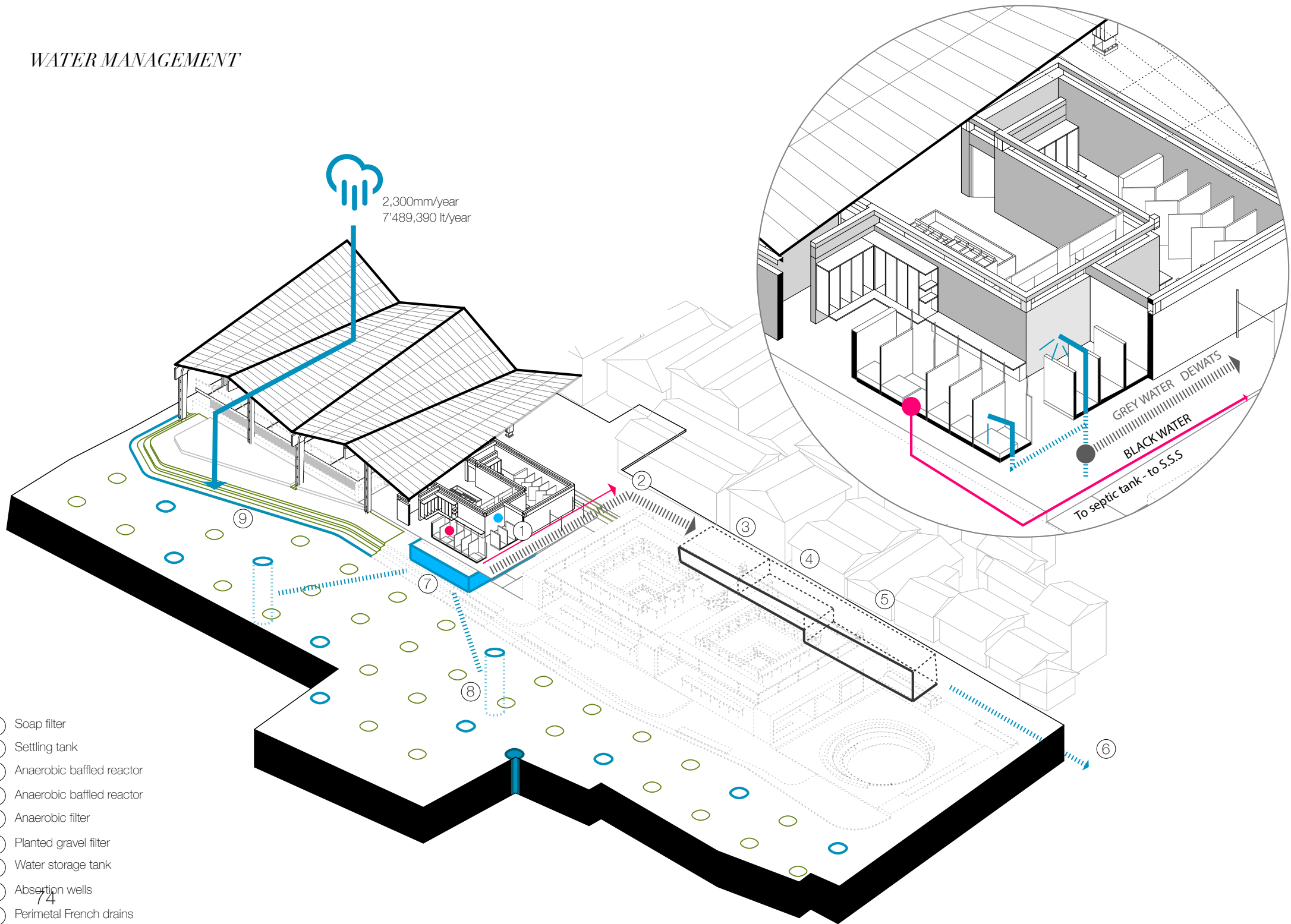
- 1 Textile-cement block (full)
150x100x200mm
- 2 Geotextile wrap
- 3 Topsoil for planting
- 4 Compacted backfill trench from in situ soil
- 5 Rounded gravel 20-40mm as pipe bedding
- 6 Perforated flexible HDPE pipe for rainwater collection (to storage tank)
- 7 Concrete foundation with simple steel rebar reinforcement 150x150mm





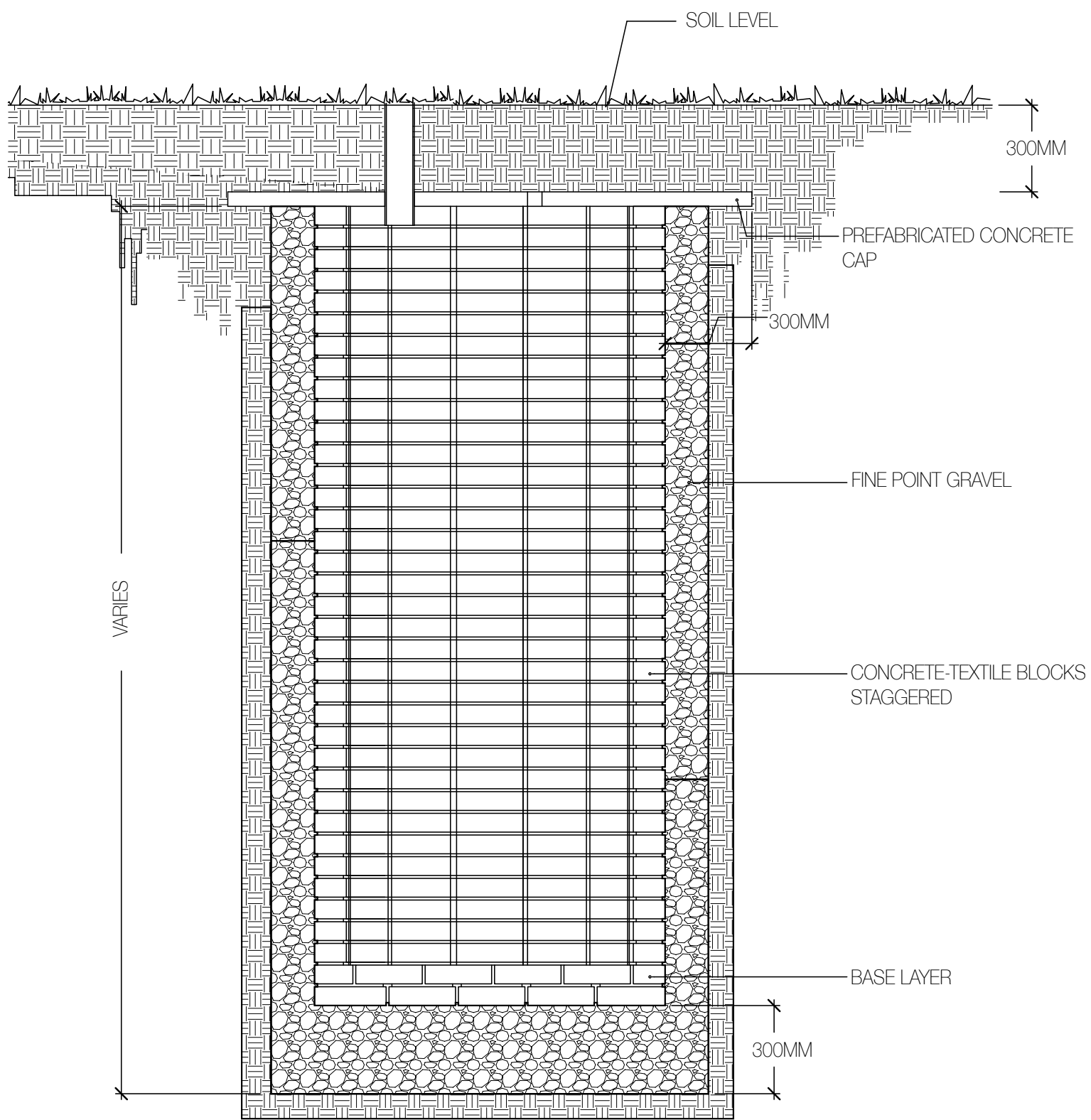
WATER MANAGEMENT


 2,300mm/year
 7'489,390 lt/year



- ① Soap filter
- ② Settling tank
- ③ Anaerobic baffled reactor
- ④ Anaerobic baffled reactor
- ⑤ Anaerobic filter
- ⑥ Planted gravel filter
- ⑦ Water storage tank
- ⑧ Absorption wells
- ⑨ Perimetral French drains

*ABSORPTION WELL
DETAIL*



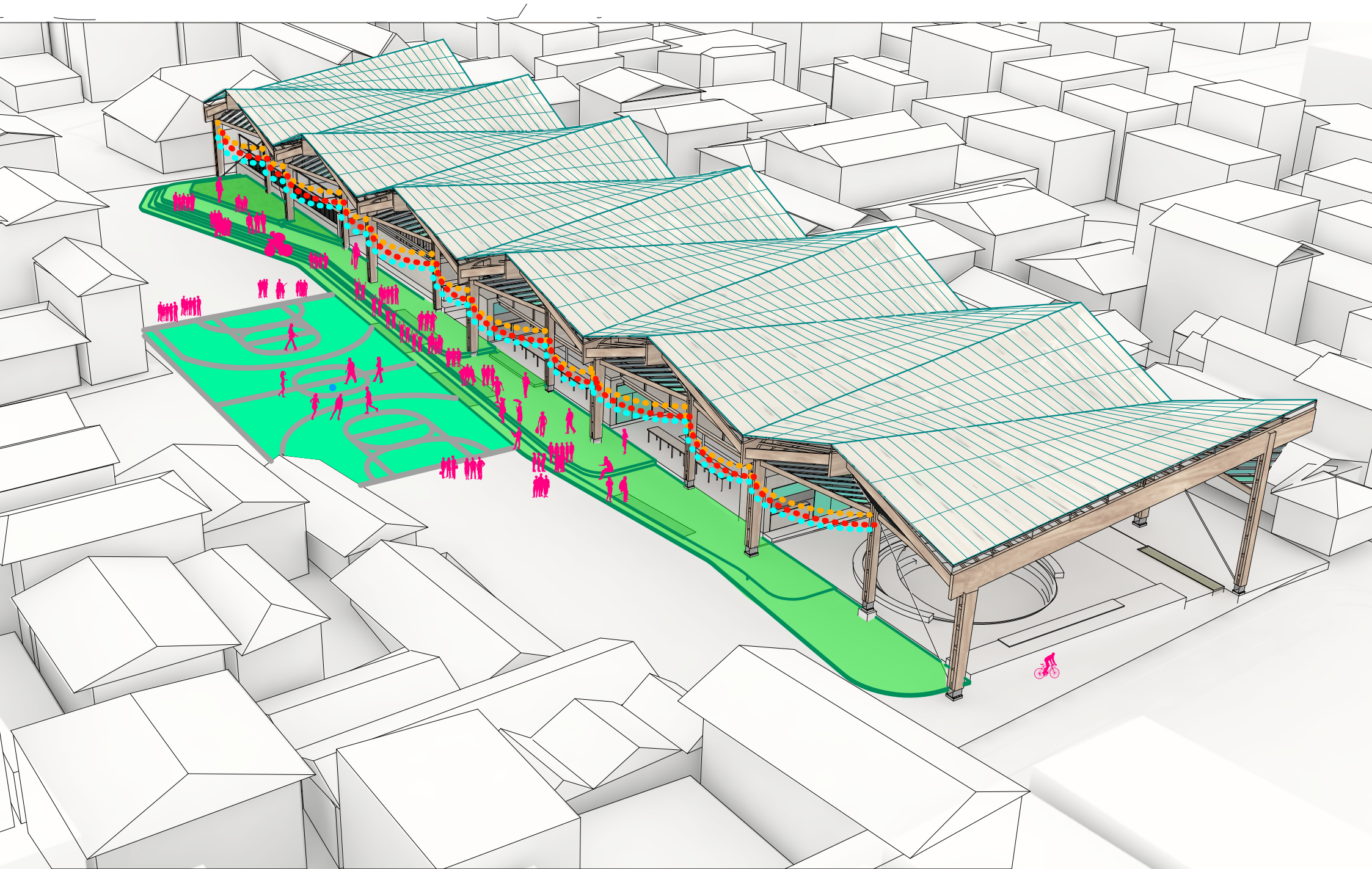
LANDSCAPE AS WATER BUFFER



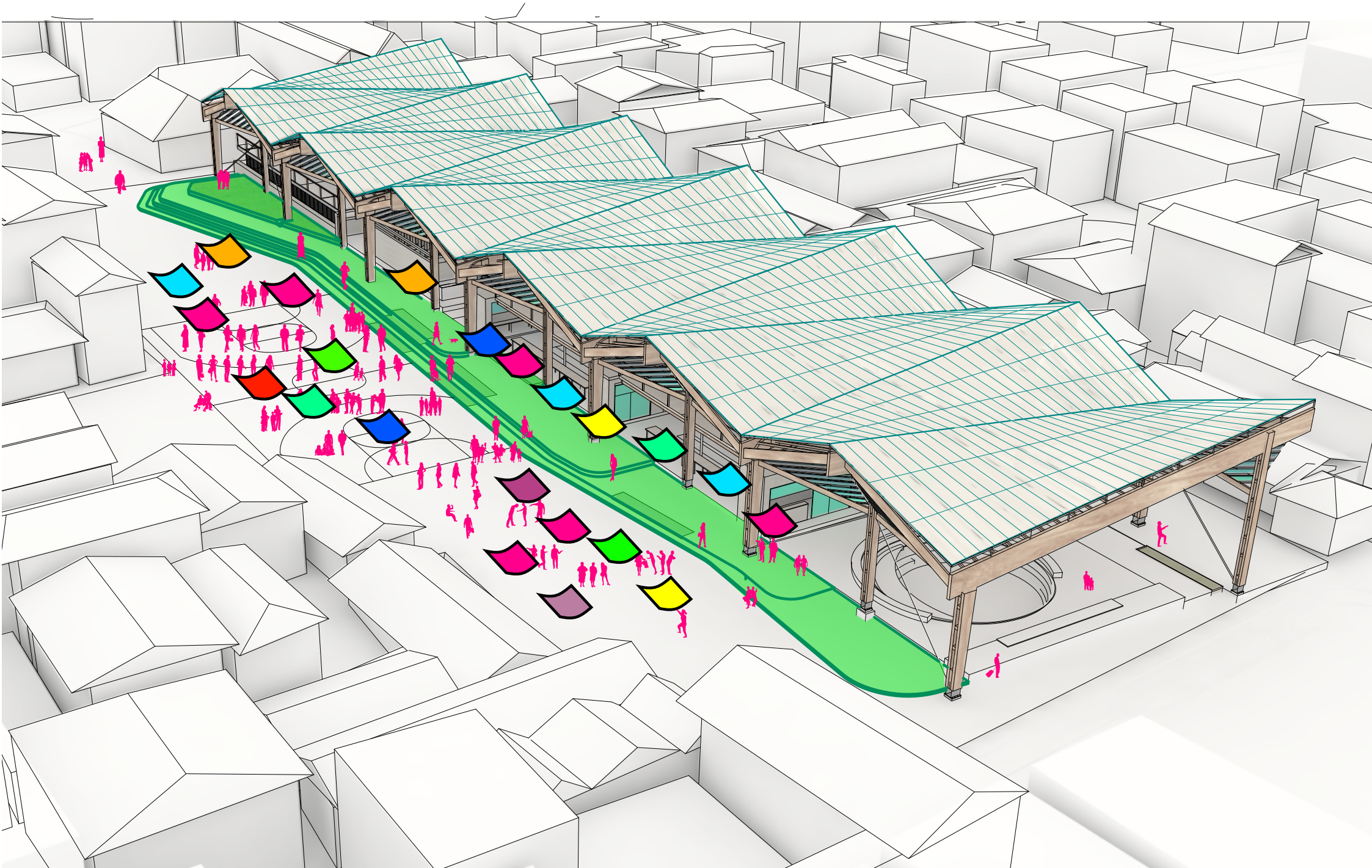
THE TRADITIONAL FUTURE

ACTIVITY LANDSCAPE

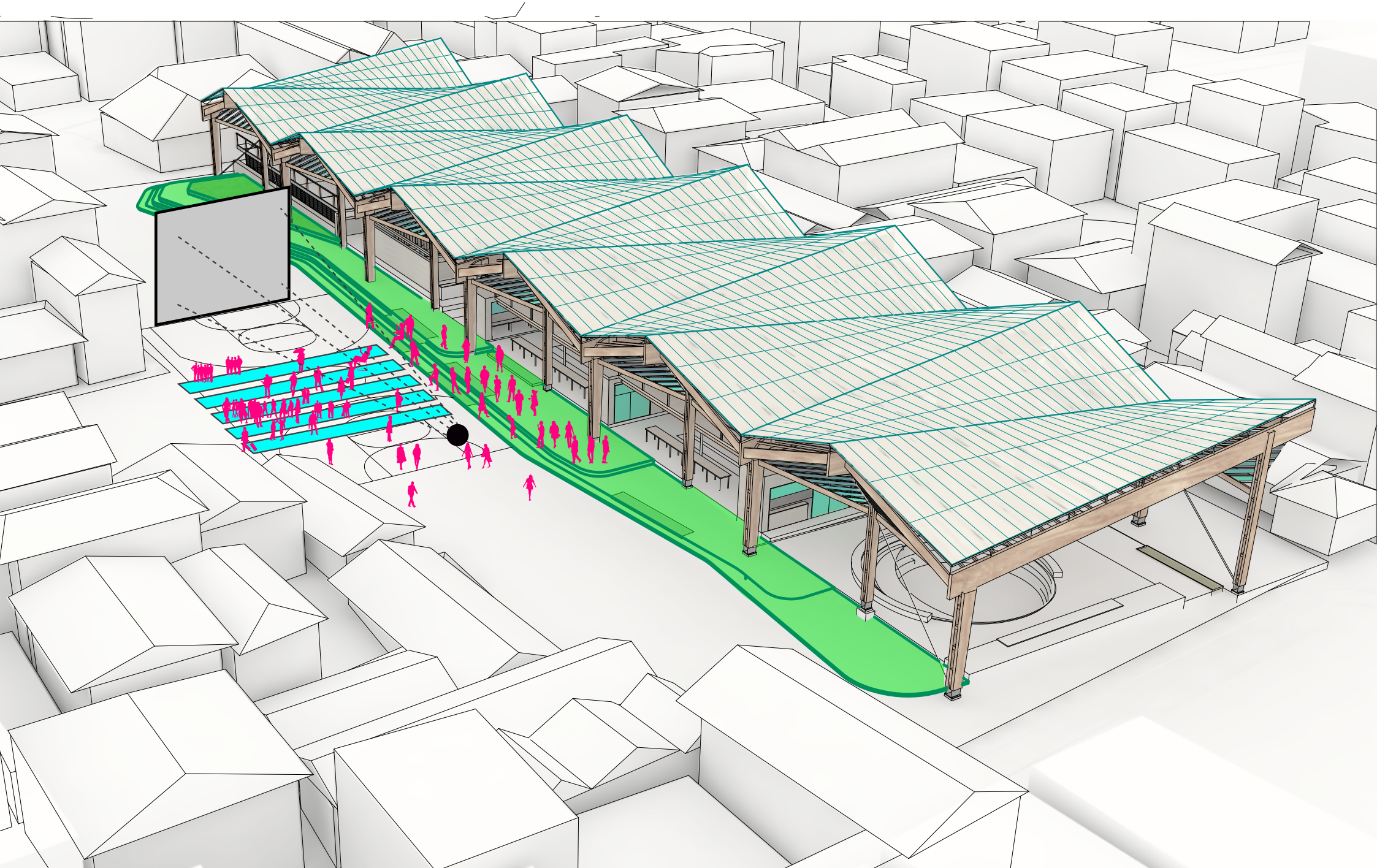
THE SOCIAL BUFFER



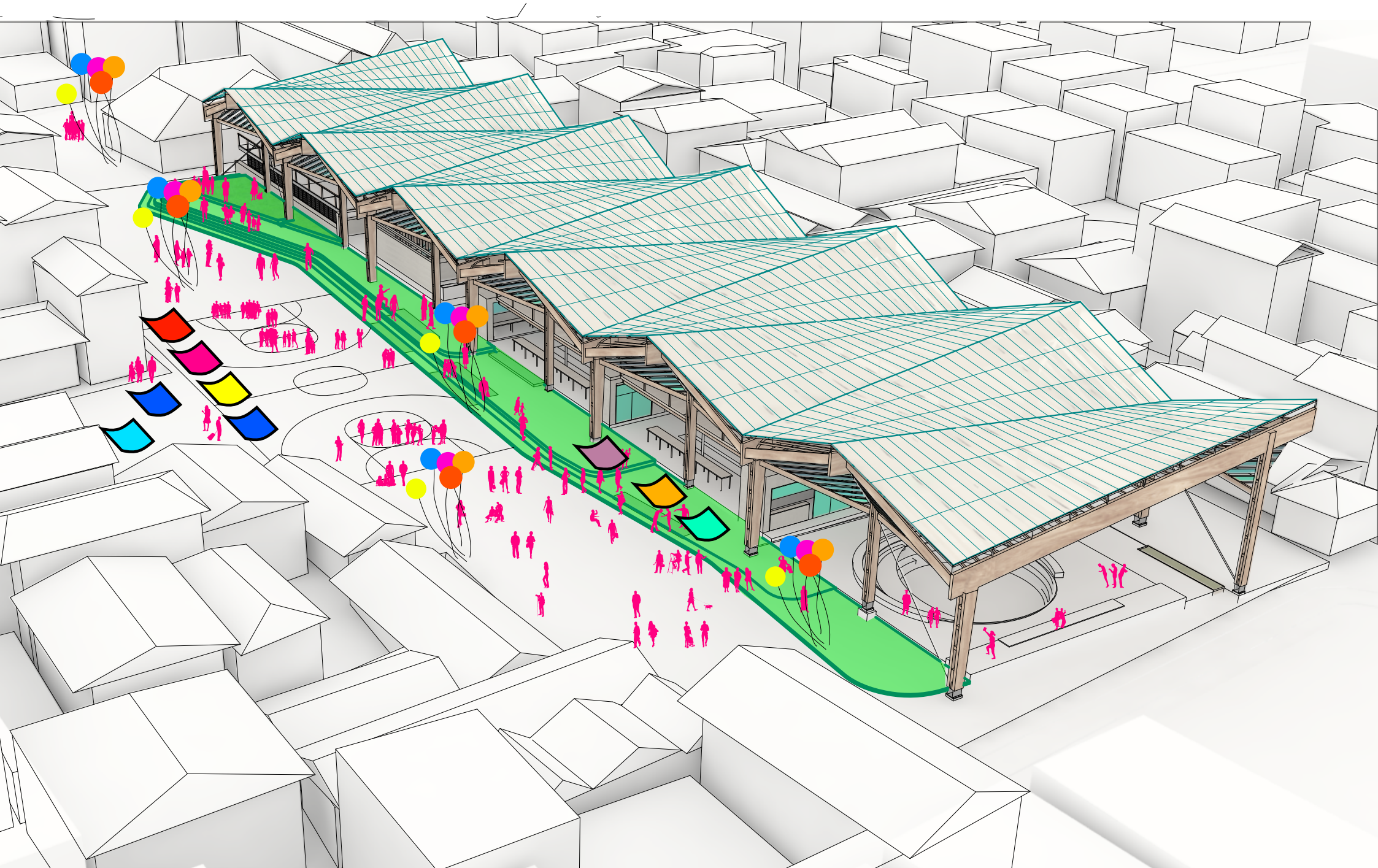








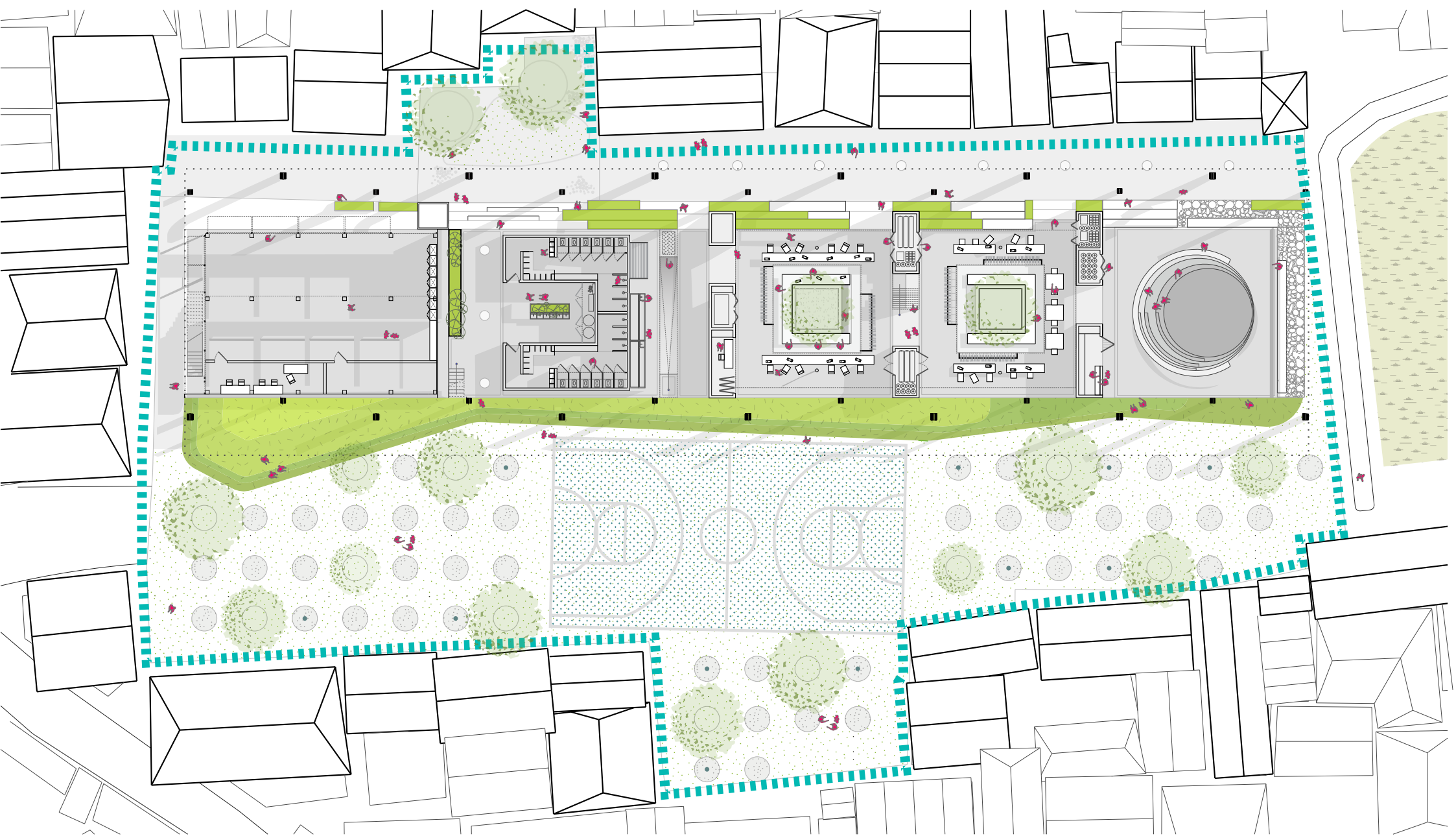




THE TRADITIONAL FUTURE

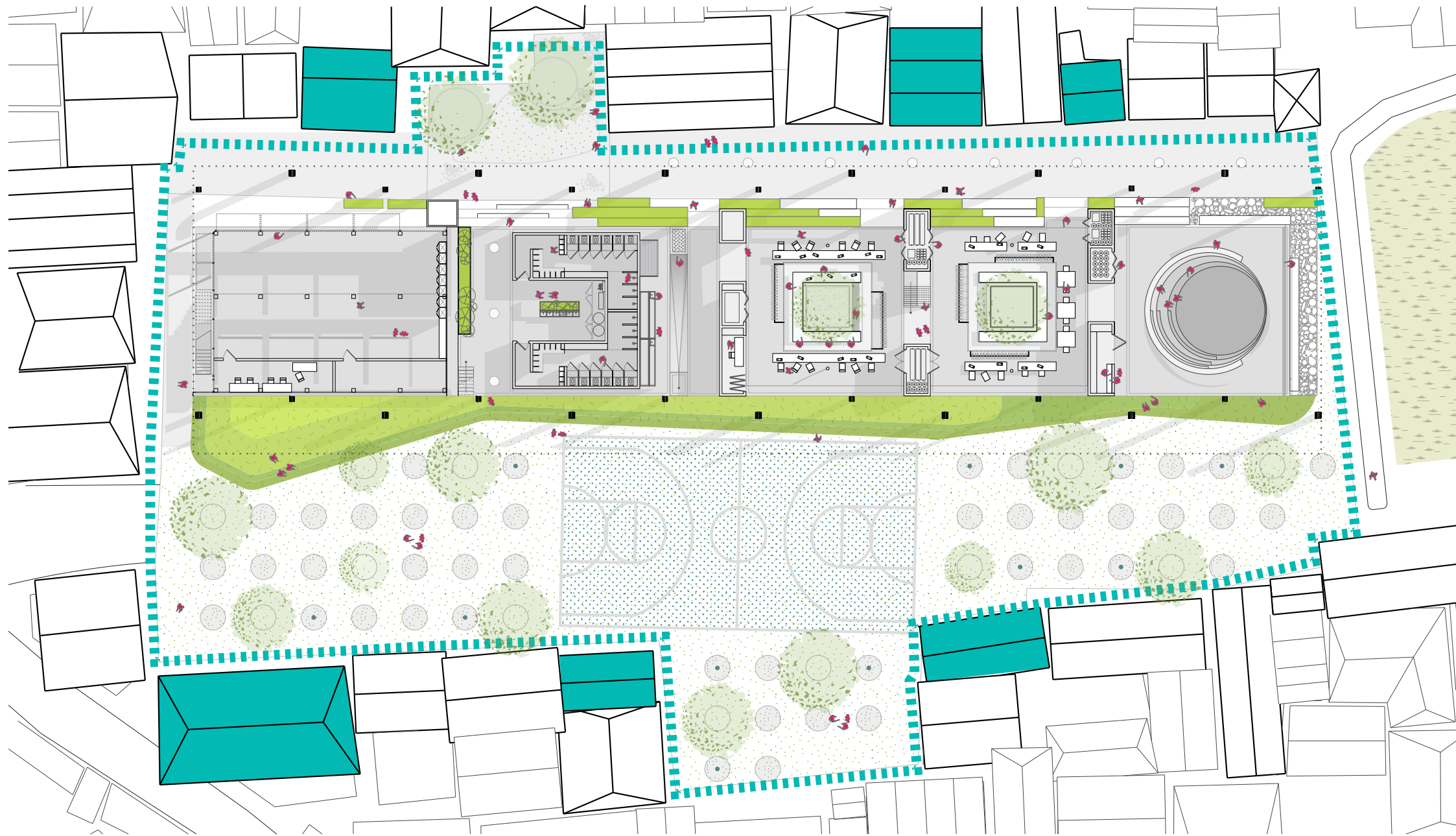
THE SLH AND THE PERIMETER

ECONOMIC ACTIVATION



PROGRAMME PLACING





BORDER ACTIVATION



SITE



PROGRAMME INSERTION



BORDER ACTIVATION



NEW PERIMETER PROGRAMME

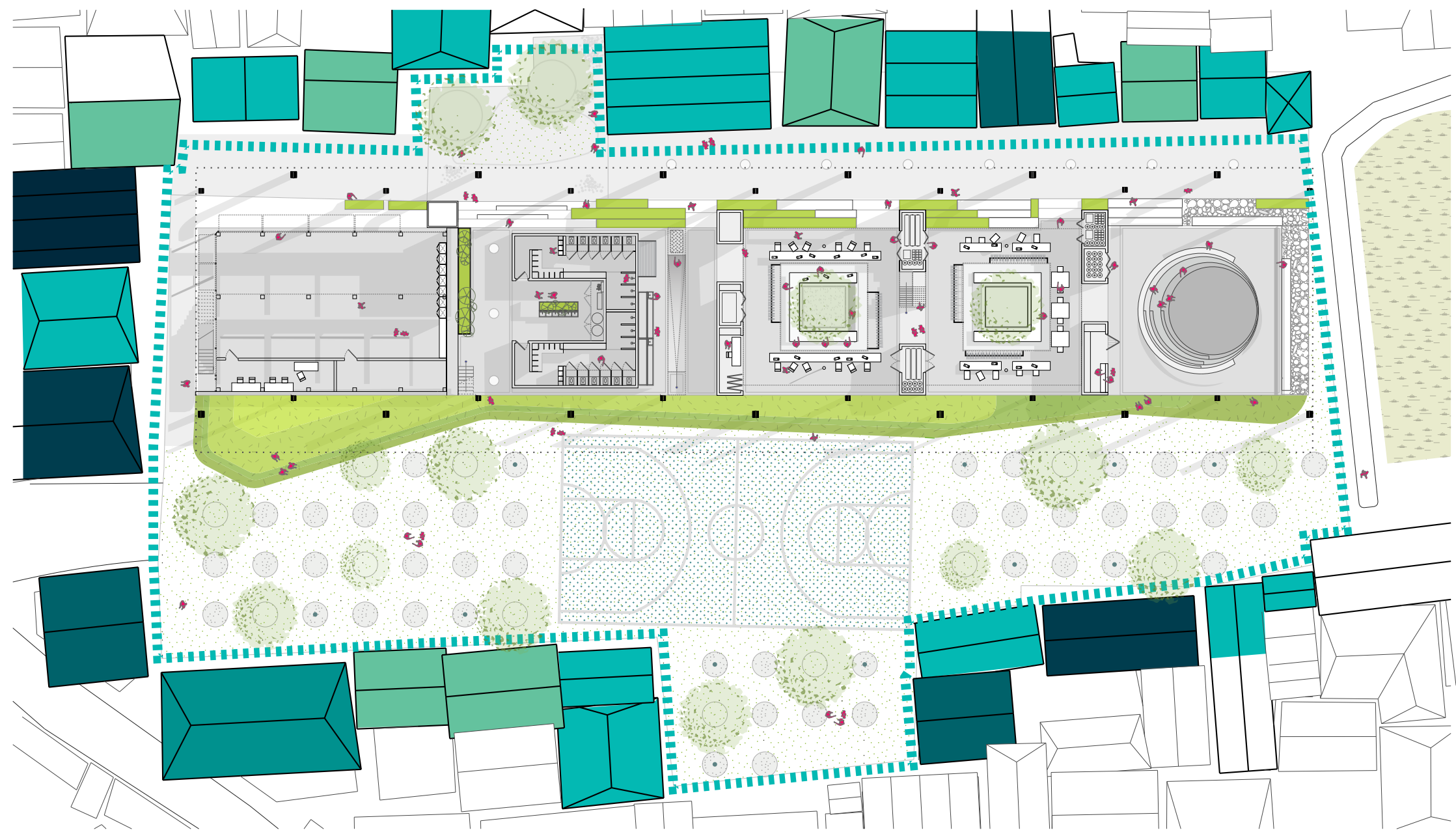


RESPONSE TO HUB NEEDS



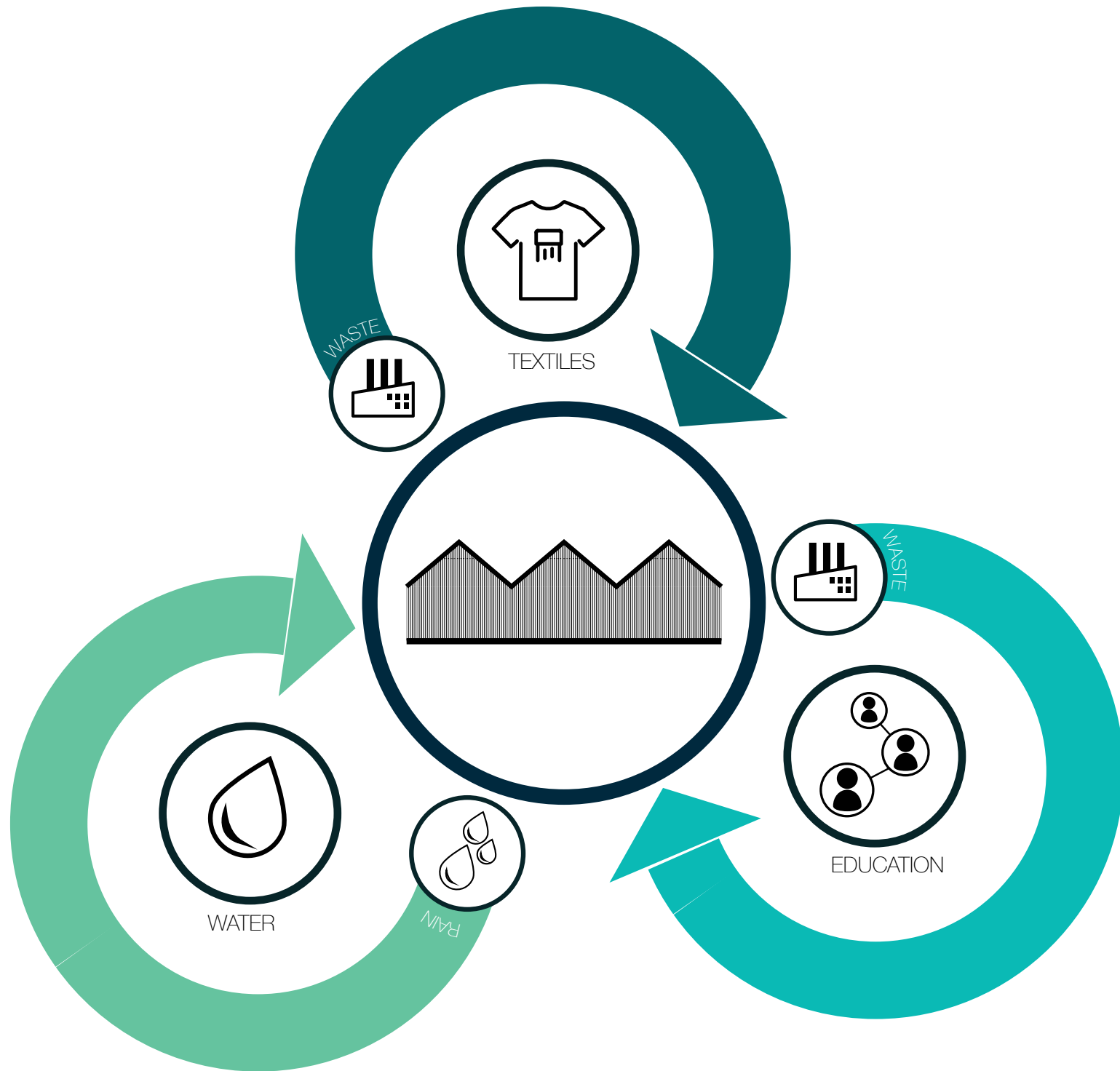
ACTIVATION SPREAD





FULLY ACTIVATED BORDER





An architectural rendering of a long, traditional building with a multi-gabled roof, set within a dense urban environment. The building's interior is visible, showing a series of rooms and a central courtyard. The roof is highlighted with a vibrant green color, suggesting a sustainable or modern architectural feature. The surrounding city is depicted with simple, white-outlined rectangular blocks of varying heights, creating a sense of a compact, traditional urban fabric.

THE *TRADITIONAL* FUTURE

THE SECOND LIFE HUB

A. GABRIELA PEÑA IZQUIERDO
aE Graduation
2015