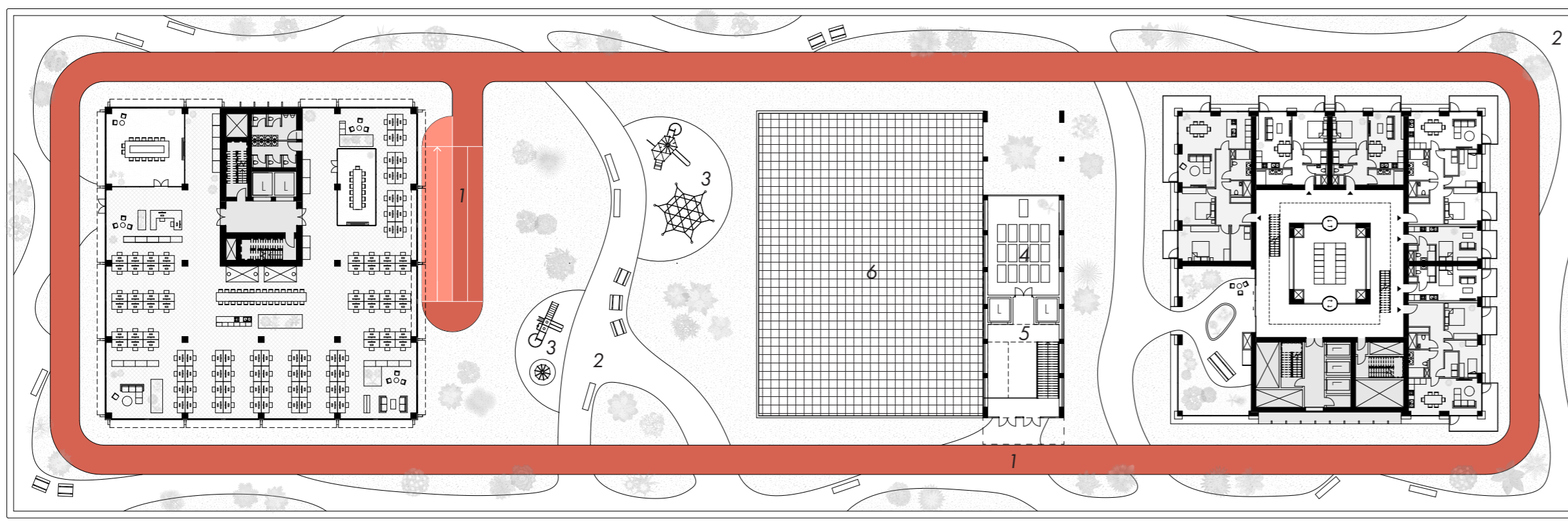


**ROOF GARDEN**



**PUBLIC**

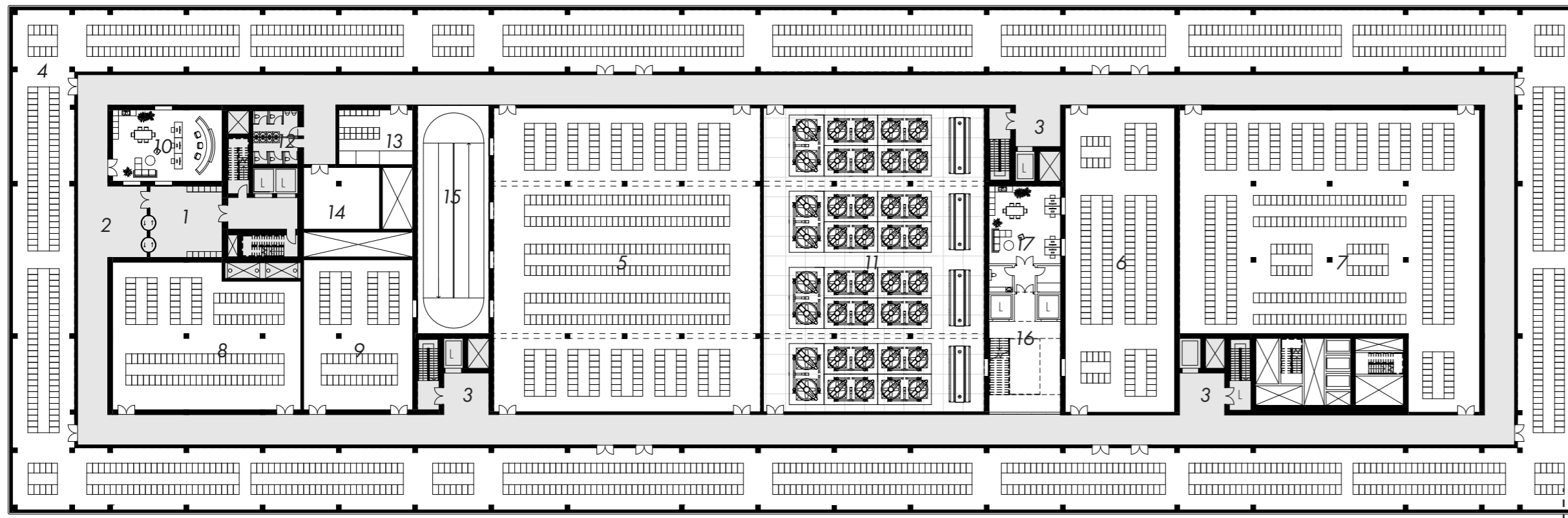
- 1 RUNNING TRACK (BACK TO GROUND LEVEL)
- 2 GARDEN EXPLORATION ROUTE
- 3 PLAYGROUND AREA
- 4 ROOFTOP PAVILLION (ACTIVITY SPACE)
- 5 STAIRS AND LIFTS (BACK TO GROUND LEVEL)

**DATA CENTER**

- 6 ROOF MESH WITH COOLING TOWERS UNDERNEATH (WALKABLE)

BOTH THE GREENHOUSE AND RESIDENTIAL TOWER ARE CONNECTED TO THE ROOF GARDEN. SEE RESPECTIVE FLOOR PLANS FOR DETAILS.

**DATA 2ND**



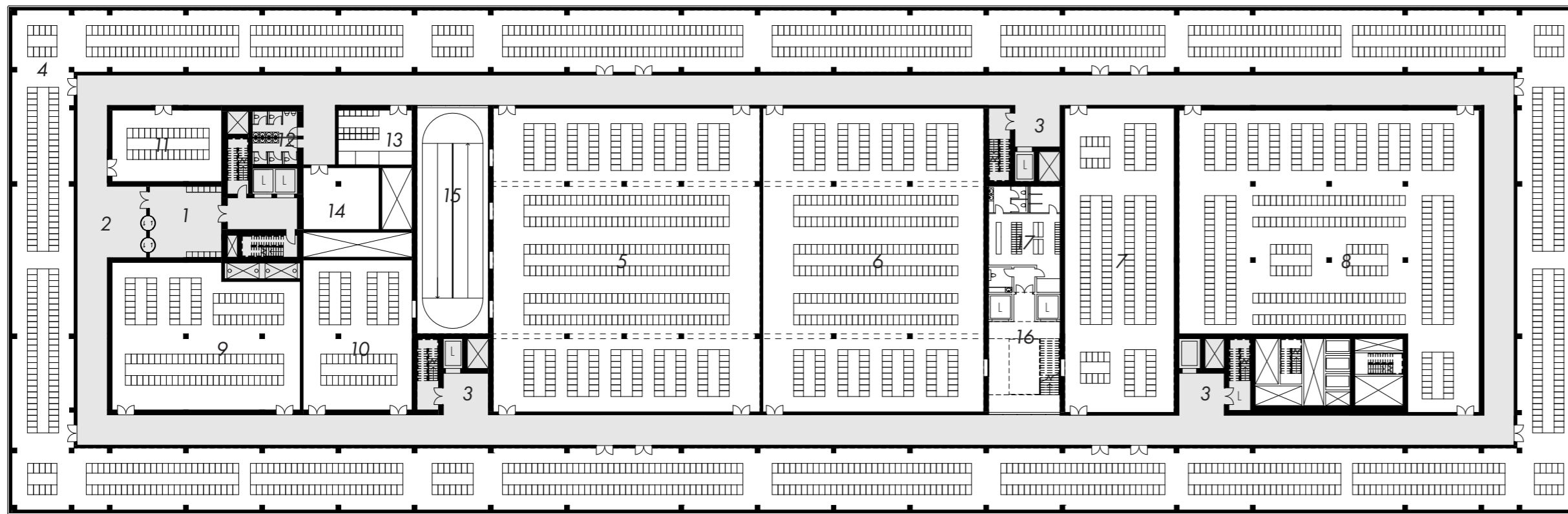
**DATA CENTER**

- 1 SECURITY CHECK (MANTRAPS)
- 2 DATA CENTER CORRIDORS
- 3 FIRE ESCAPES TO GROUND
- 4 SERVER SPACE INDIA
- 5 SERVER SPACE JULIETT
- 6 SERVER SPACE KILO
- 7 SERVER SPACE LIMA
- 8 SERVER SPACE MIKE
- 9 SERVER SPACE NOVEMBER
- 10 CONTROL ROOM
- 11 COOLING TOWERS (EXTERIOR)
- 12 TOILETS
- 13 STORAGE AREA
- 14 MECHANICAL AREA AND SHAFTS

**PUBLIC**

- 15 RUNNING TRACK TO ROOF (WITH VIEWS INTO DATA CENTER)
- 16 STAIRS AND LIFTS TO ROOF (WITH VIEWS INTO DATA CENTER)
- 17 SPORTS CENTER OFFICE SPACE

**DATA 1ST**



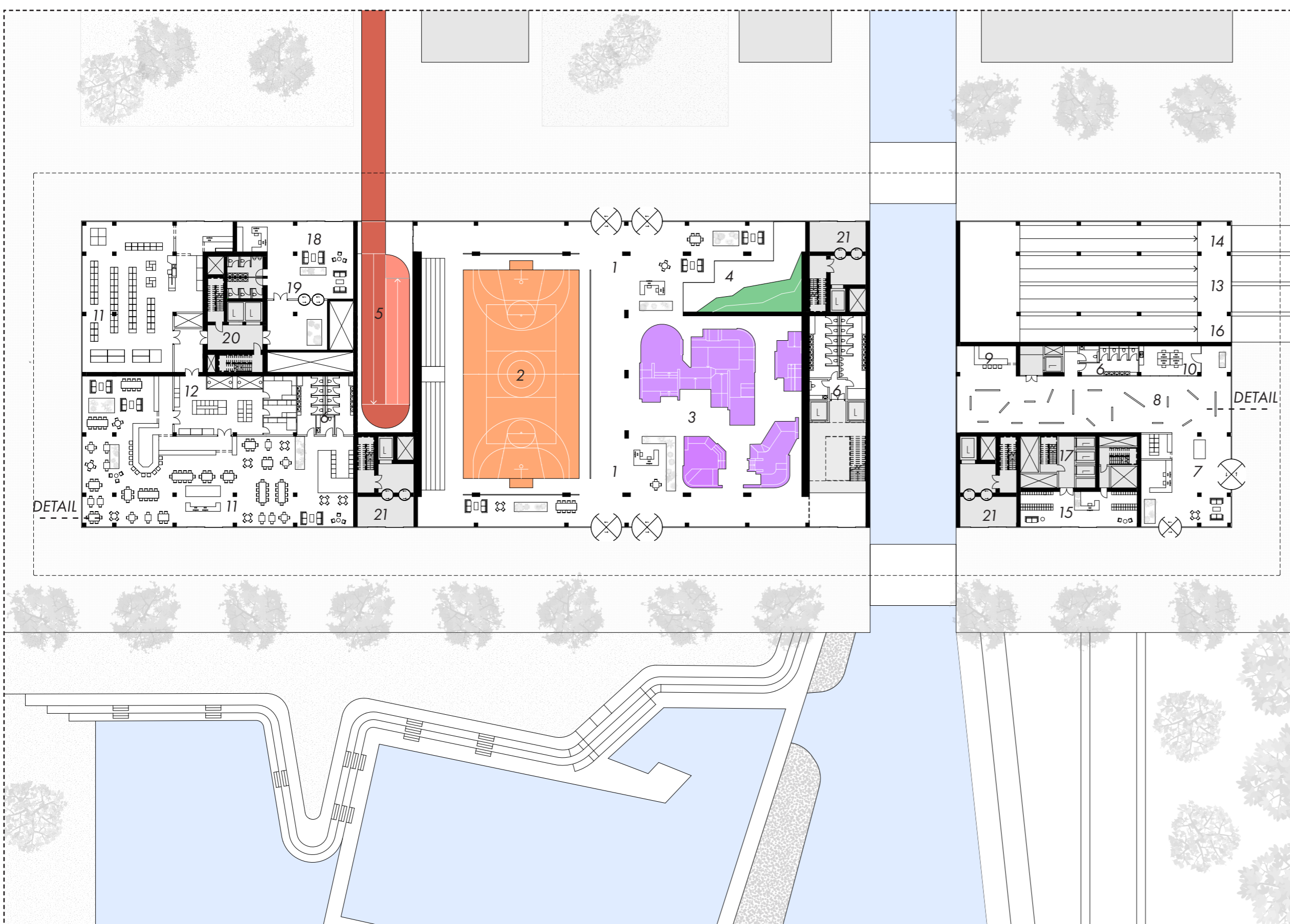
**DATA CENTER**

- 1 SECURITY CHECK (MANTRAPS)
- 2 DATA CENTER CORRIDORS
- 3 FIRE ESCAPES TO GROUND
- 4 SERVER SPACE ALFA
- 5 SERVER SPACE BRAVO
- 6 SERVER SPACE CHARLIE
- 7 SERVER SPACE DELTA
- 8 SERVER SPACE ECHO
- 9 SERVER SPACE FOXTROT
- 10 SERVER SPACE GOLF
- 11 SERVER SPACE HOTEL
- 12 TOILETS
- 13 STORAGE AREA
- 14 MECHANICAL AREA AND SHAFTS

**PUBLIC**

- 15 RUNNING TRACK TO ROOF (WITH VIEWS INTO DATA CENTER)
- 16 STAIRS AND LIFTS TO ROOF (WITH VIEWS INTO DATA CENTER)
- 17 MEN'S LOCKER ROOM (WOMEN'S ON MEZZANINE AT +3900)

**GROUND LEVEL**



**PUBLIC**

- 1 SPORTS CENTER ENTRANCE
- 2 MULTI SPORT COURT
- 3 SKATEPARK
- 4 BOULDERING
- 5 RUNNING TRACK TO ROOF
- 6 TOILETS (INCL. ACCESSIBLE)
- 7 CULTURAL CENTER ENTRANCE
- 8 EXHIBITION ROOM
- 9 BAR AREA
- 10 OFFICE FOR CULTURAL CENTER
- 11 GREENHOUSE RESTAURANT
- 12 RESTAURANT KITCHEN & STORAGE
- 13 CAR RAMP TO BASEMENT
- 14 PEDESTRIAN RAMP TO BASEMENT

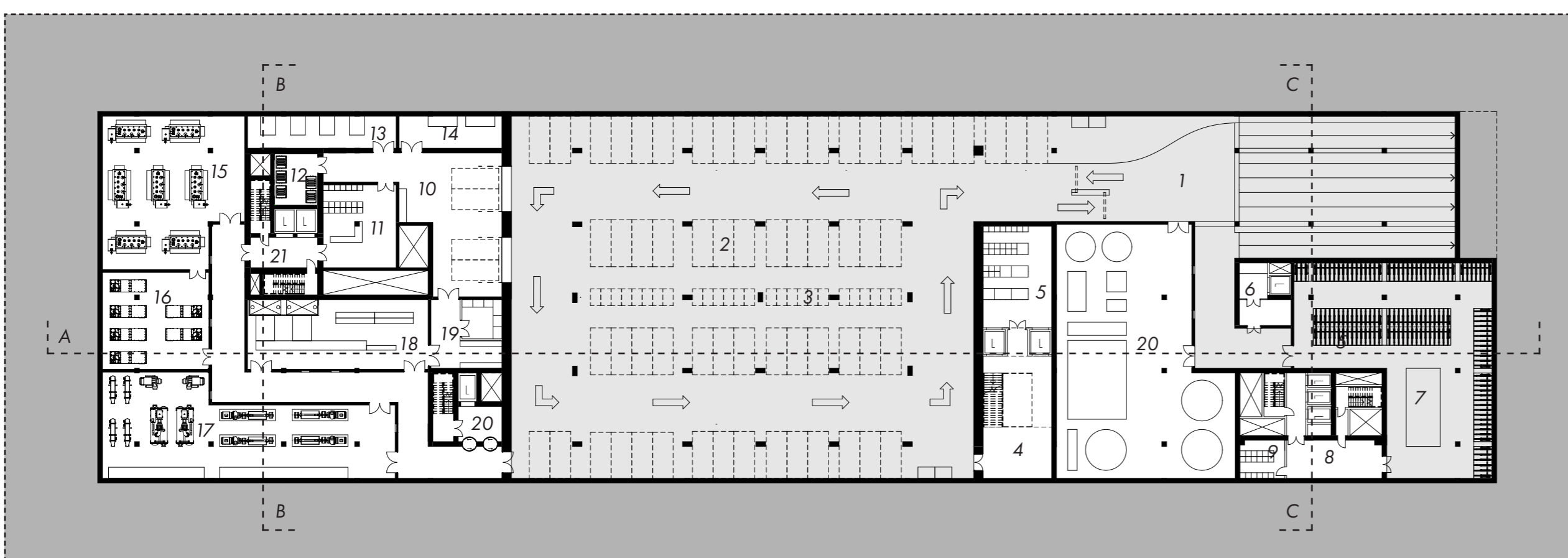
**RESIDENTIAL TOWER**

- 15 RESIDENTIAL TOWER LOBBY
- 16 BIKE RAMP TO BASEMENT
- 17 RESIDENTIAL TOWER CORE

**DATA CENTER & GREENHOUSE**

- 18 DATA CENTER (NORTHWEST) AND GREENHOUSE ENTRANCE
- 19 SECURITY MANTRAP (ACCESS RESTRICTION)
- 20 CORE FOR DATA CENTER AND GREENHOUSE
- 21 SOUTHWEST, SOUTHEAST AND NORTHEAST ENTRANCES DATA CENTER

**BASEMENT**



**PUBLIC**

- 1 SHARED MOBILITY HUB ENTRANCE
- 2 PARKING SPACES SHARED CARS (62)
- 3 PARKING SPACES SHARED SCOOTERS (26)
- 4 ACCESS TO SPORTS CENTER
- 5 STORAGE SPORTS CENTER (INCL. FREIGHT ELEVATORS)
- 6 ACCESS TO CULTURAL CENTER (STAFF & GOODS)

**RESIDENTIAL TOWER**

- 7 BIKE STORAGE (260 REGULAR, 15 EXTRA LARGE SPACES)
- 8 RESIDENTIAL TOWER CORE
- 9 STORAGE FOR RESIDENTIAL TOWER

**DATA CENTER & GREENHOUSE**

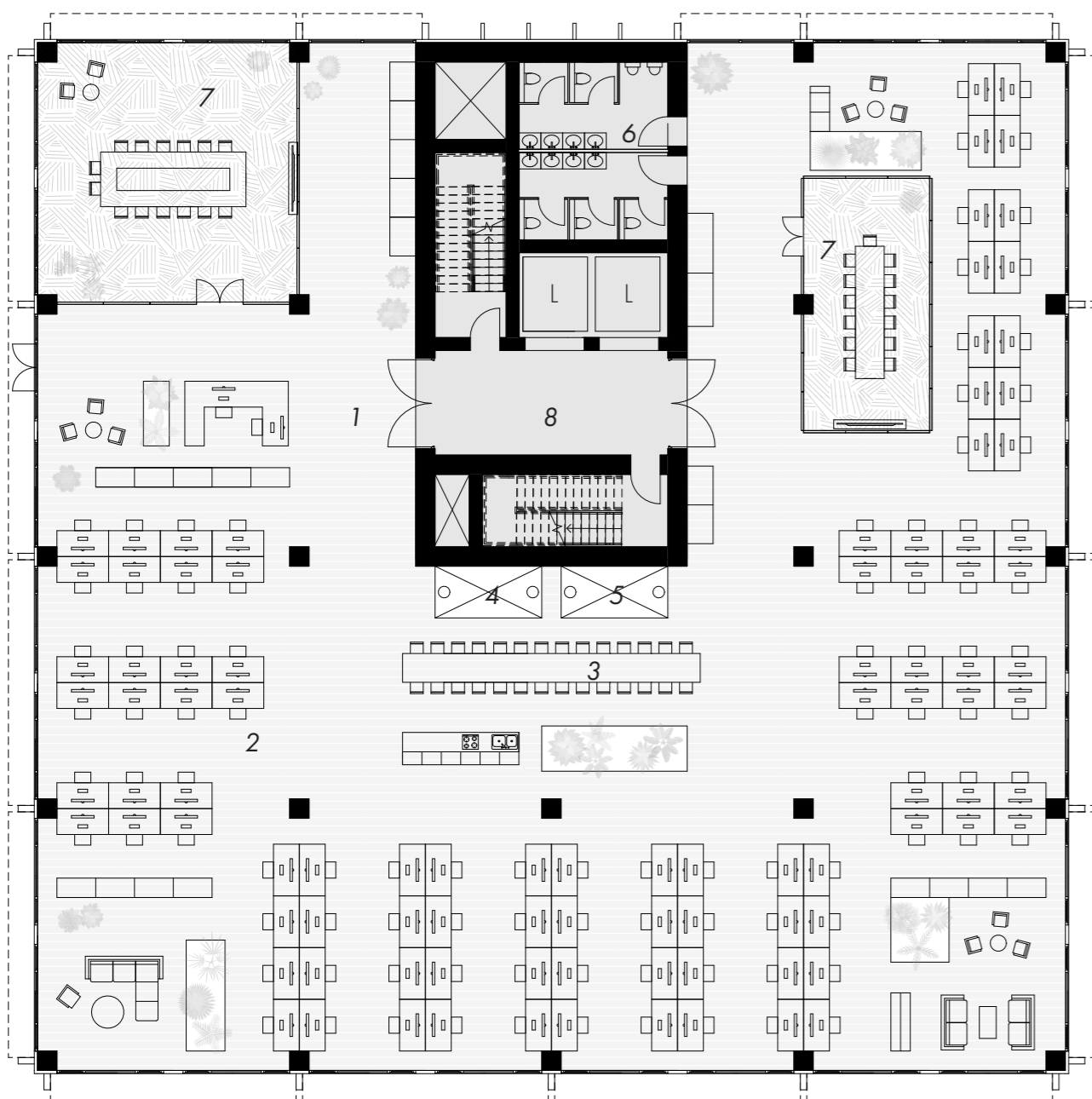
- 10 DATA CENTER AND GREENHOUSE LOGISTICS
- 11 SECURITY CHECK GOODS AND PERSONS
- 12 CONTAINERS
- 13 ELECTRICAL DISTRIBUTION
- 14 OPTICAL FIBER DISTRIBUTION
- 15 TRANSFORMER ROOM
- 16 GENERATOR ROOM
- 17 (HEAT) PUMPS, EXCHANGERS & CHILLERS

- 18 GREENHOUSE FOOD PROCESSING AREA
- 19 GREENHOUSE FOOD STORAGE
- 20 WATER TREATMENT (FOR USE IN DATA CENTER)
- 21 ACCESS TO GREENHOUSE & DATA CENTER SW (F.E)

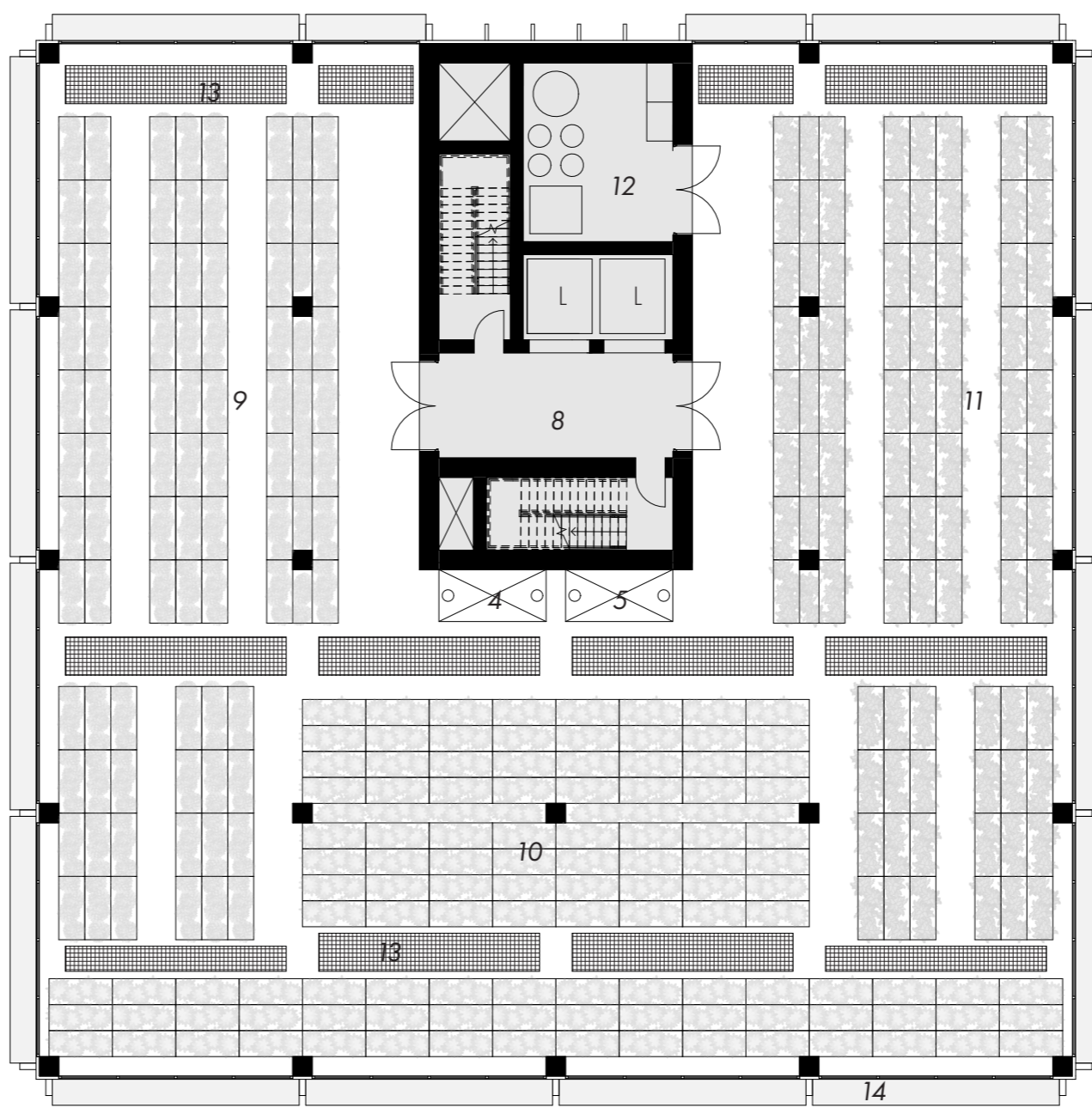




**GREENHOUSE 1ST & 2ND FLOOR**



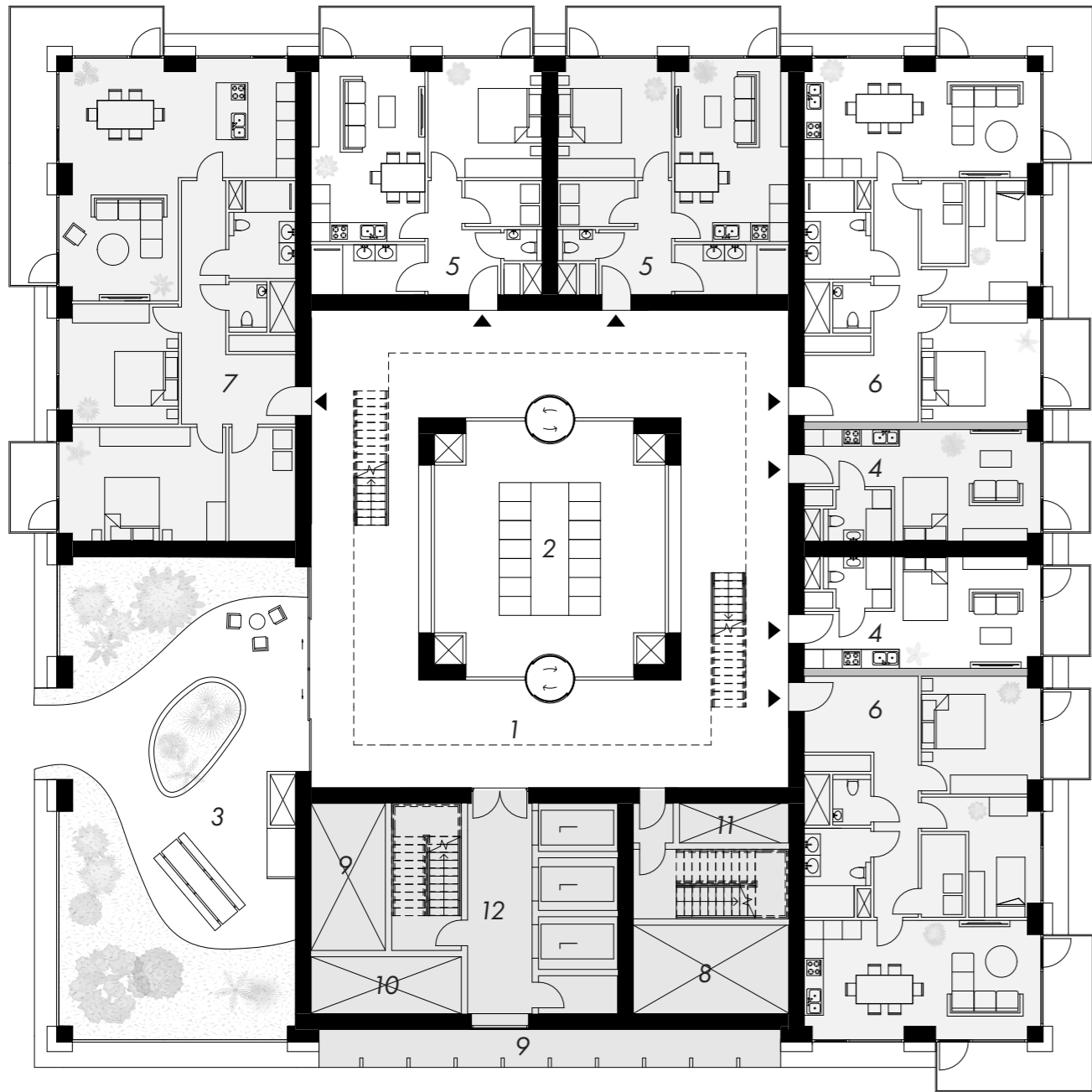
**GREENHOUSE FLOOR 3-11**



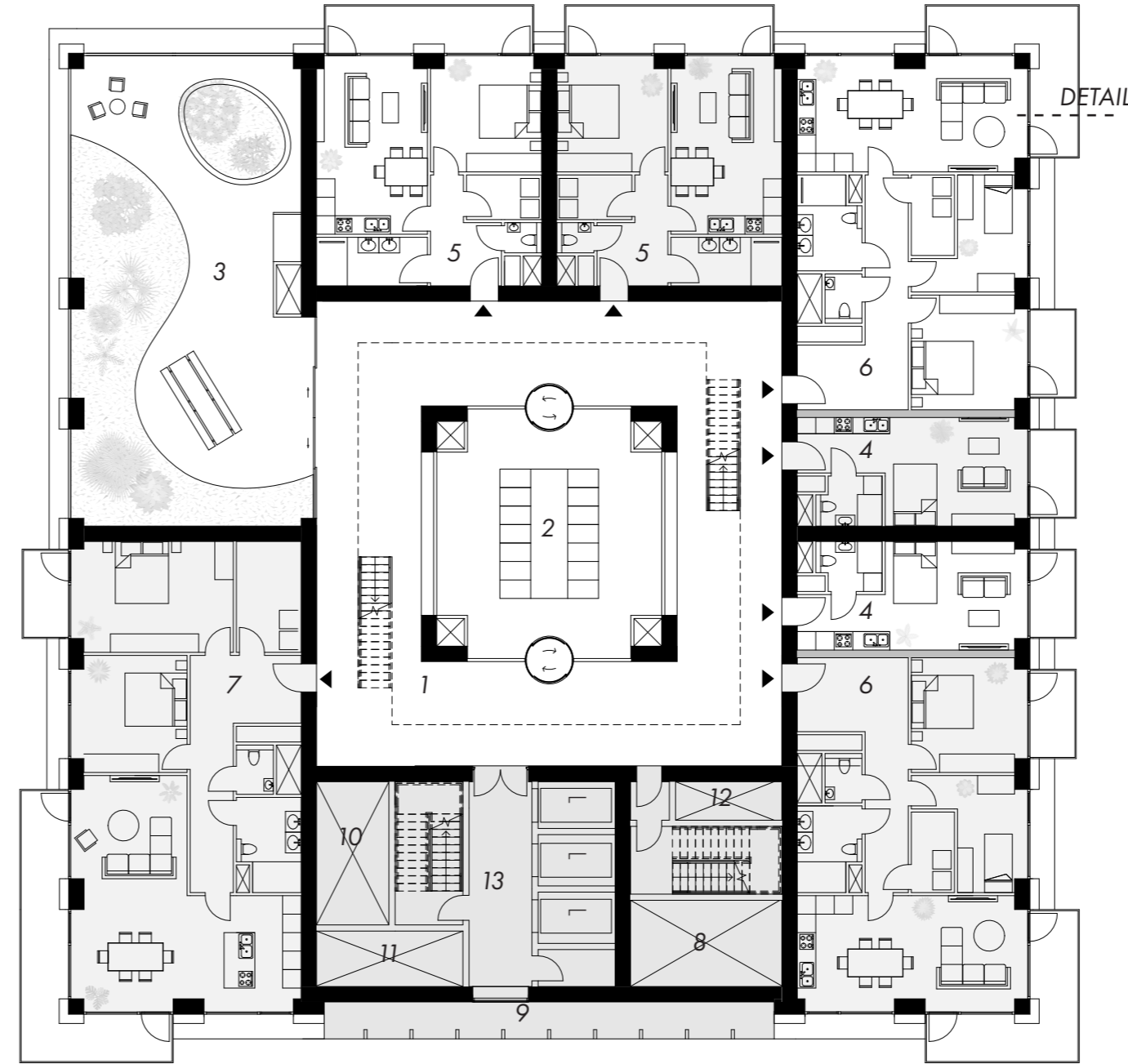
**GREENHOUSE TOWER**

- 1 OFFICE RECEPTION
- 2 WORKING AREA
- 3 KITCHEN AND HANGOUT
- 4 CONVEYOR LIFT DOWNWARDS (CROPS)
- 5 CONVEYOR LIFT UPWARDS (CROPS)
- 6 TOILETS
- 7 MEETING ROOMS
- 8 TOWER CORE
- 9 BELL PEPPER GROWING AREA
- 10 TOMATO GROWING AREA
- 11 CUCUMBER GROWING AREA
- 12 MECHANICAL AREA
- 13 GRATING FLOOR (UPWARDS VENTILATION)
- 14 LIGHT REFLECTORS (DEEP SUNLIGHT)

**RESIDENTIAL TOWER 1ST FLOOR**



**RESIDENTIAL TOWER FLOOR 4**

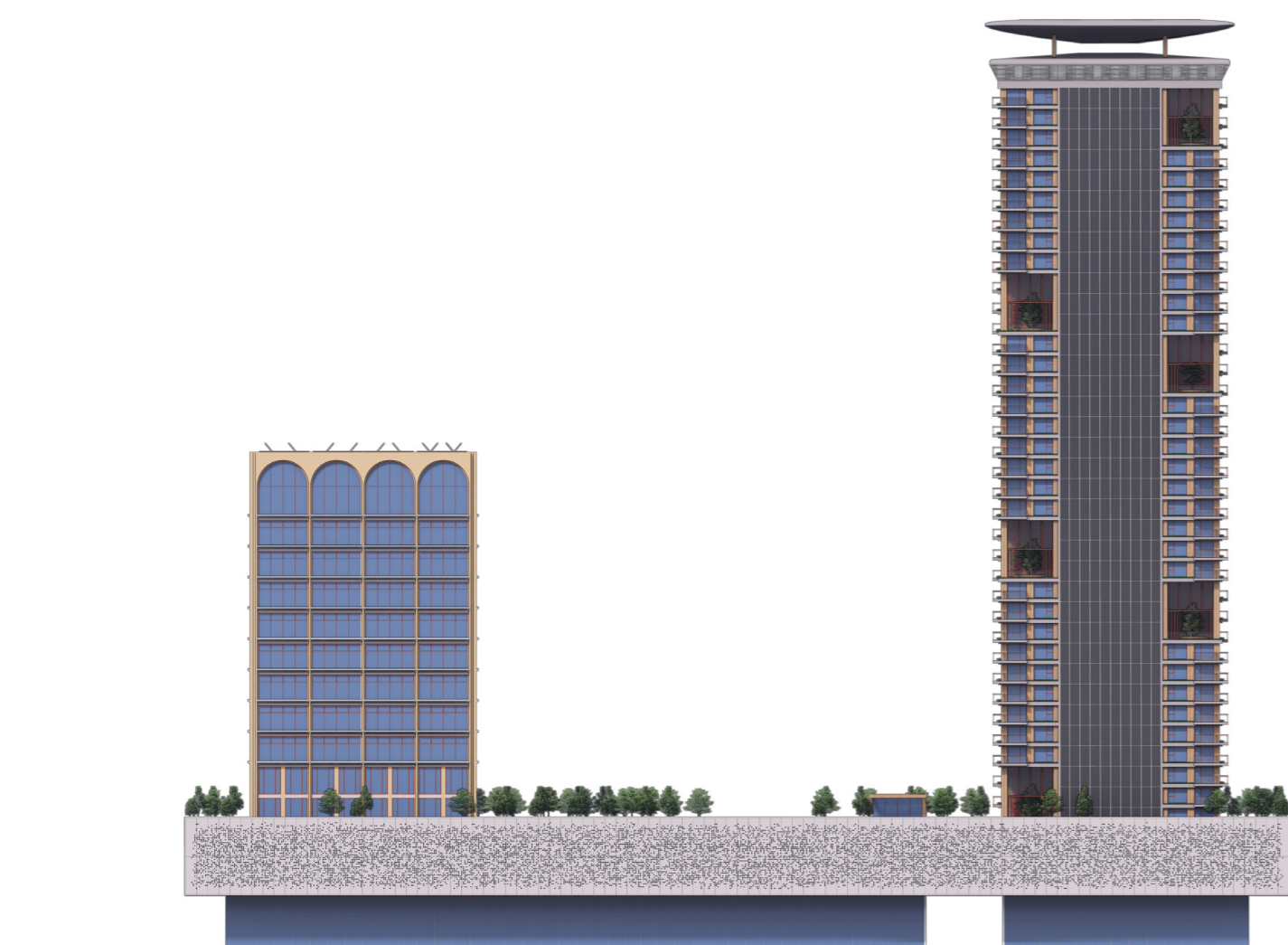


**RESIDENTIAL TOWER**

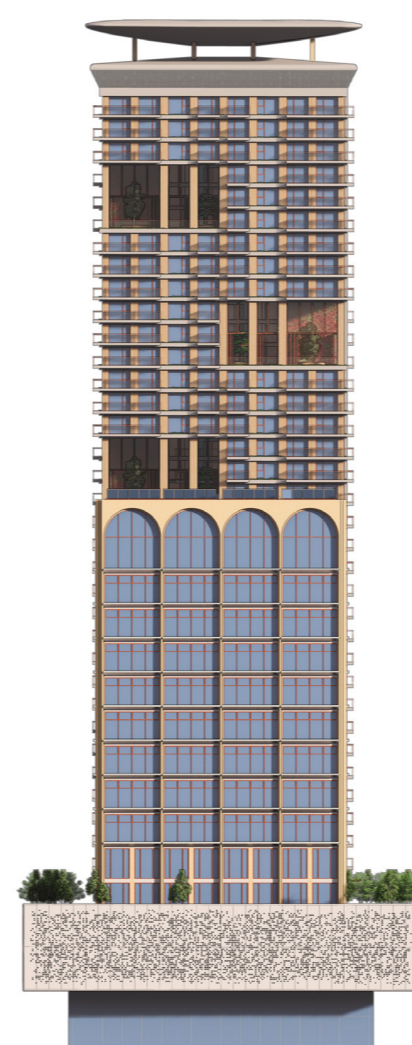
- 1 COMMUNAL AREA AROUND DATA CORE
- 2 SERVER AREA (DATA CORE)
- 3 COMMUNAL OUTDOOR SPACE
- 4 APARTMENT TYPE A (25 M<sup>2</sup>)
- 5 APARTMENT TYPE B (50 M<sup>2</sup>)
- 6 APARTMENT TYPE C (75 M<sup>2</sup>)
- 7 APARTMENT TYPE D (100 M<sup>2</sup>)
- 8 CLIMATE CASCADE (EWF)
- 9 SOLAR CHIMNEY (EWF)
- 10 VENTILATION SUPPLY CHANNELS (EWF)
- 11 VENTILATION RETURN CHANNELS (EWF)
- 12 MECHANICAL AREA
- 13 RESIDENTIAL TOWER CORE

EWF REFERS TO THE EARTH WIND AND FIRE CONCEPT BY BEN BRONSEMA. SEE: BRONSEMA, B. (2013). EARTH, WIND & FIRE-NATURAL AIR CONDITIONING (DOCTORAL DISSERTATION, PHD THESIS. DELFT UNIVERSITY OF TECHNOLOGY).

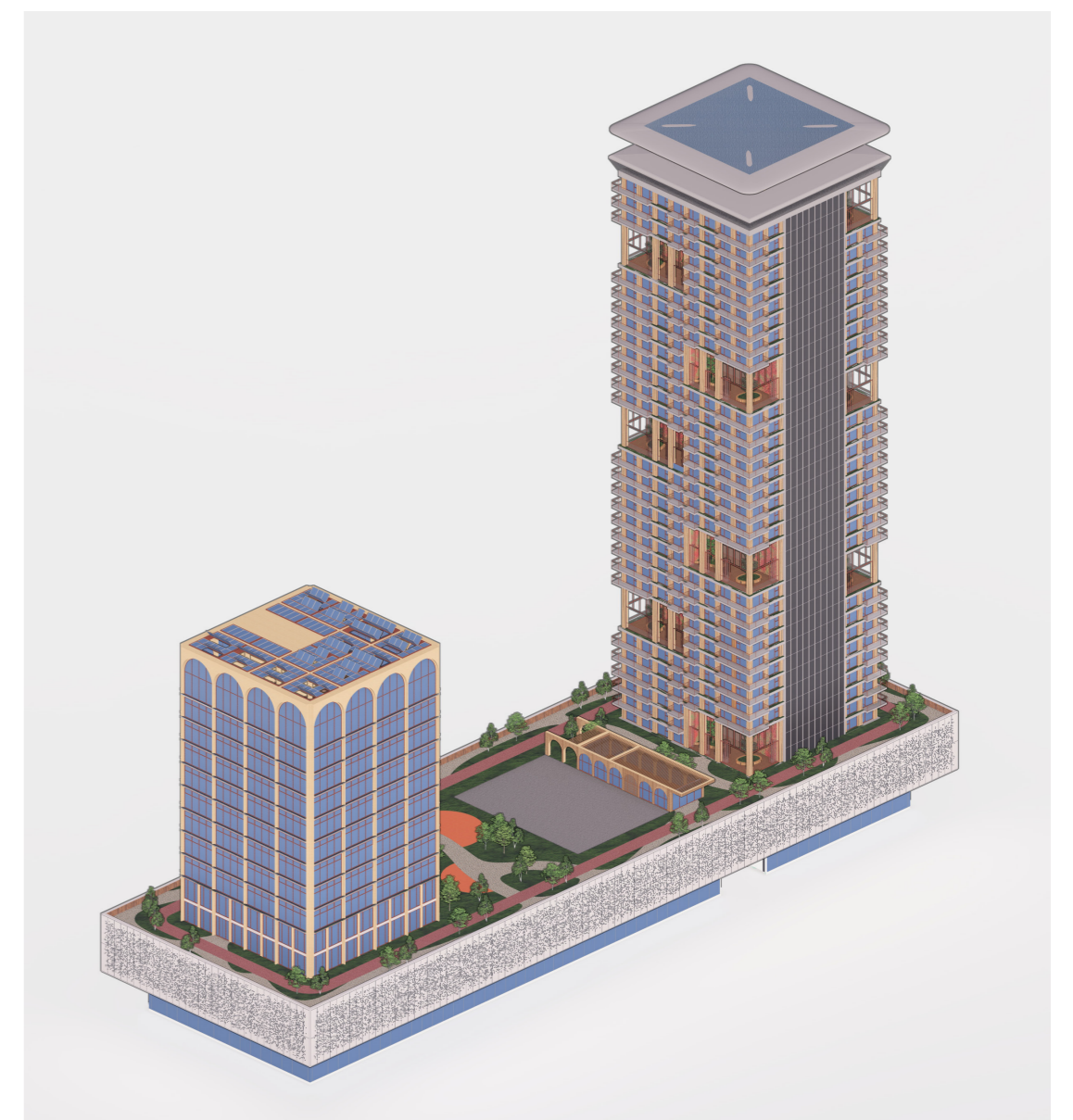
**SOUTH FACADE**



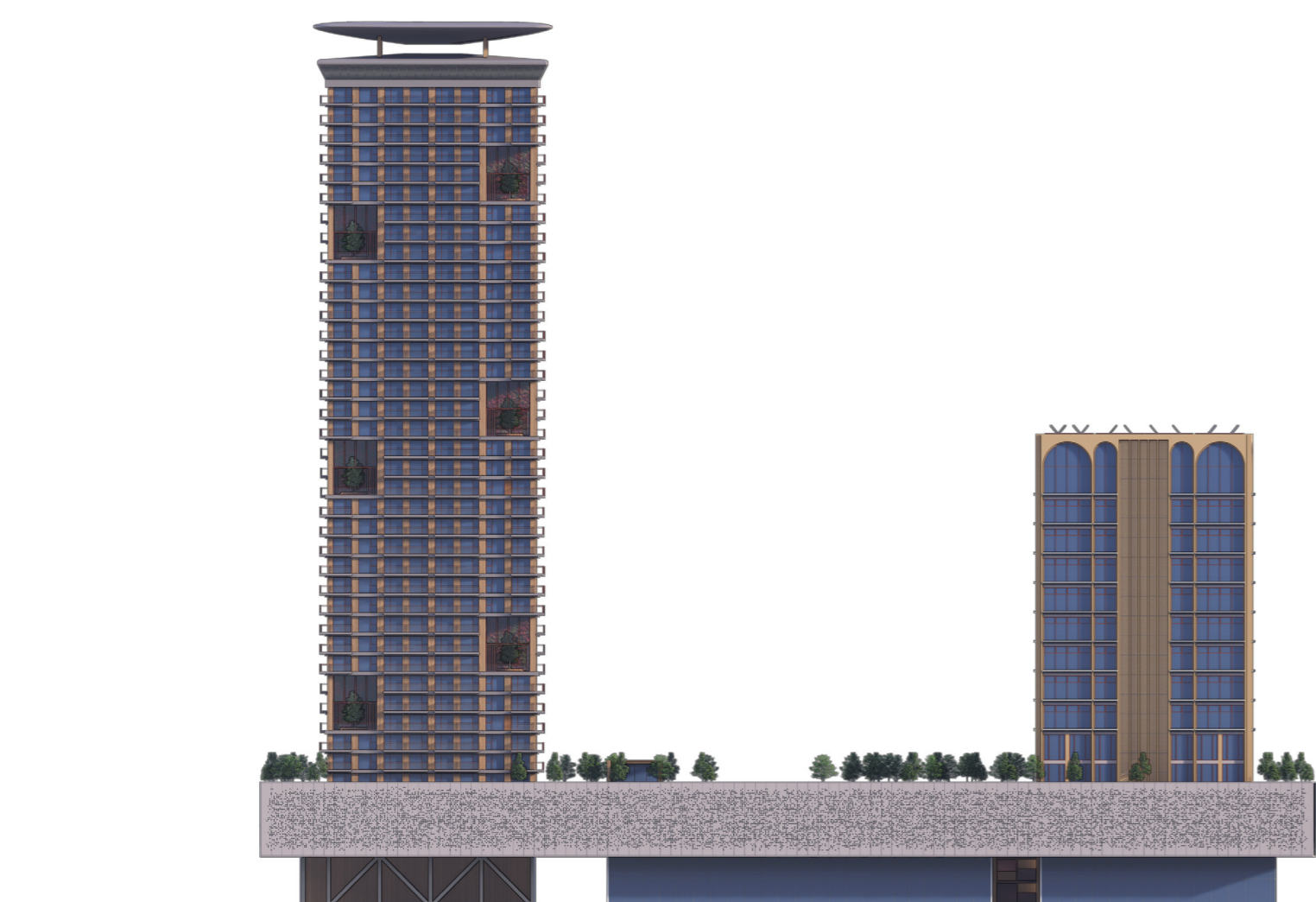
**WEST FACADE**



**AXONOMETRIC VIEW**



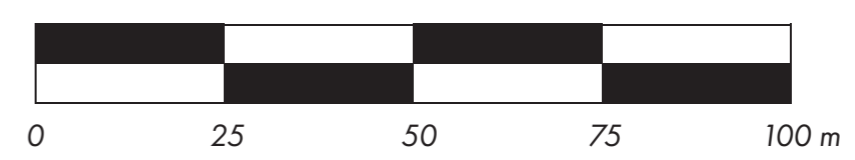
**NORTH FACADE**



**EAST FACADE**

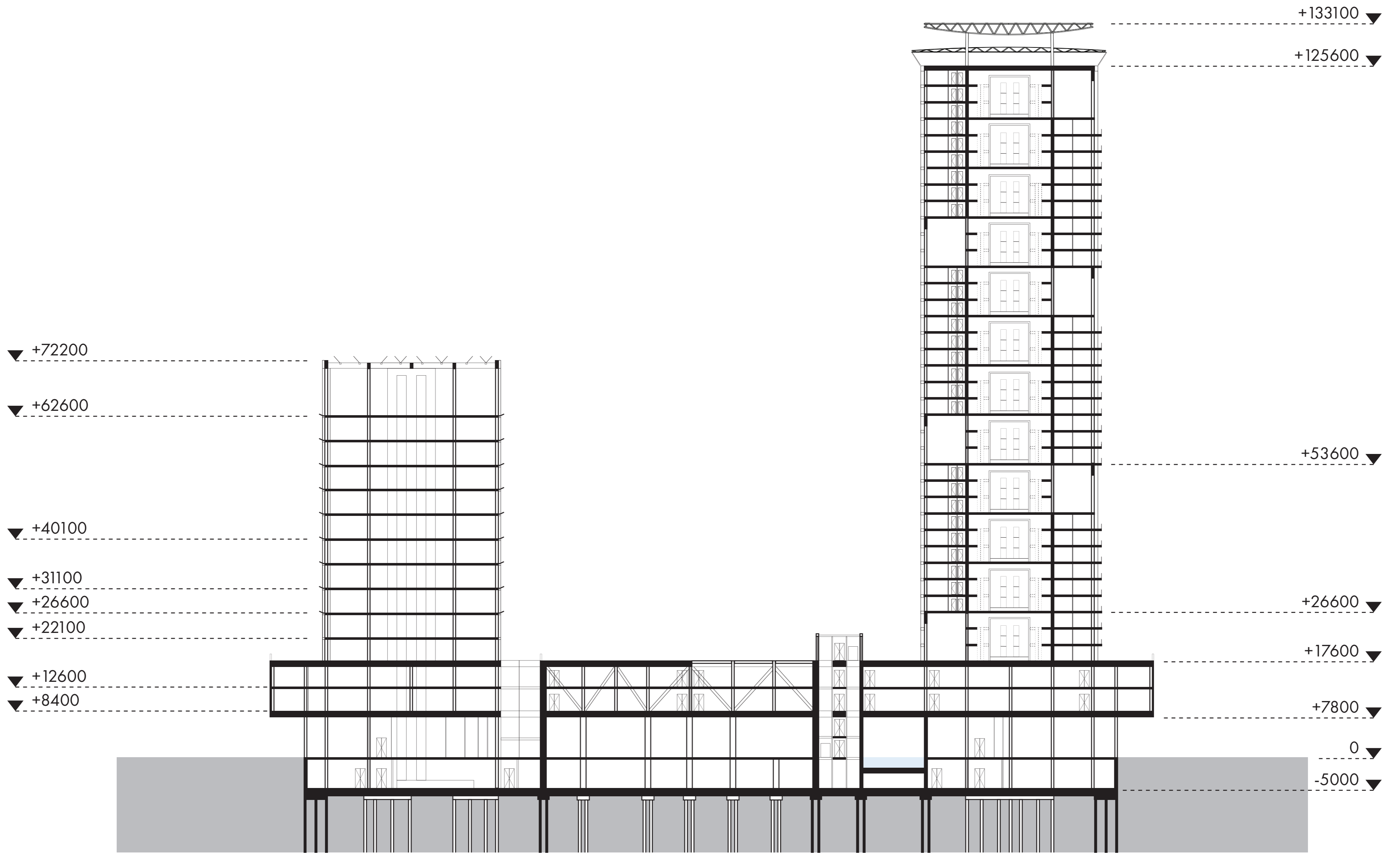


**AXONOMETRIC VIEW**

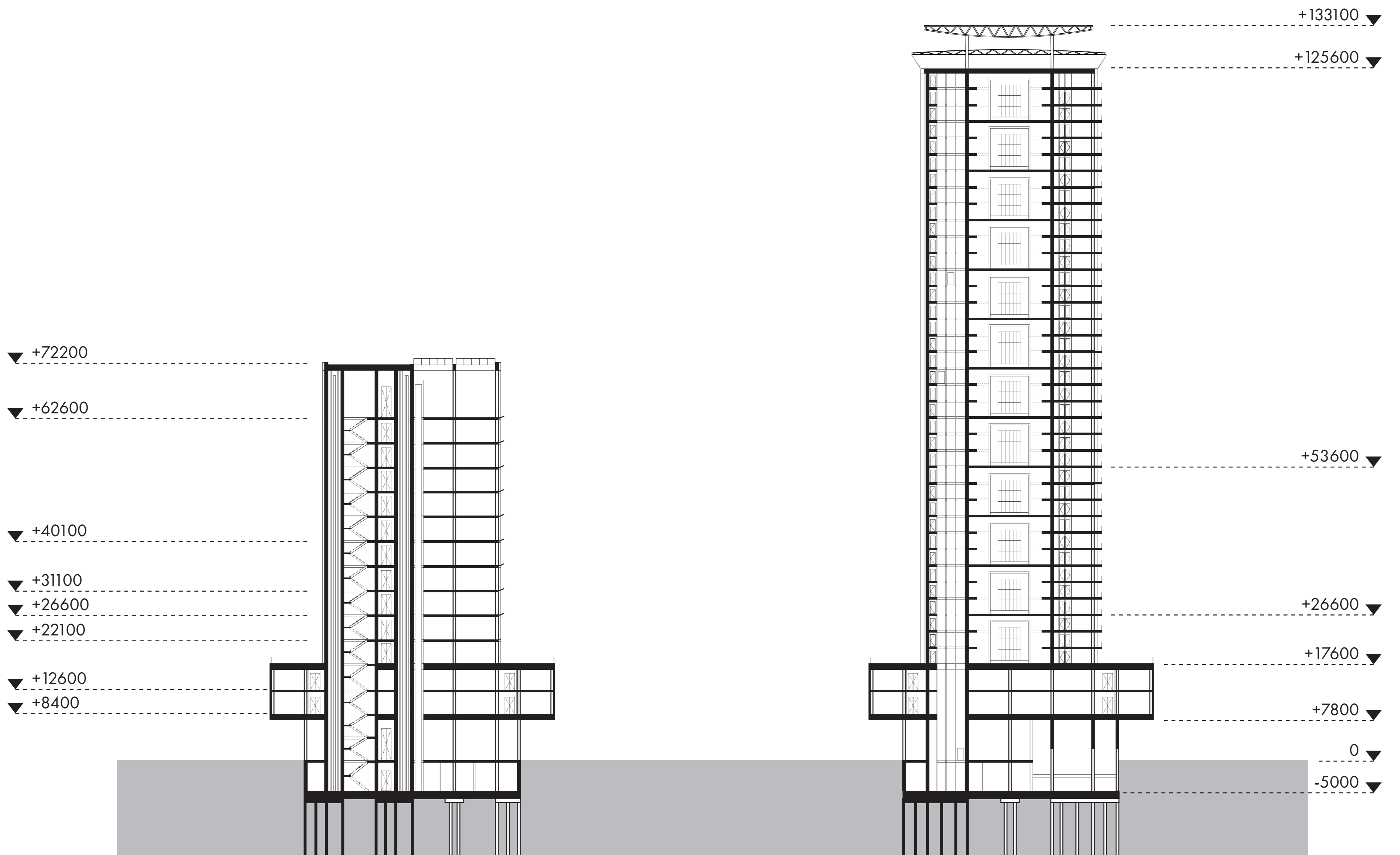




**SECTION A-A**



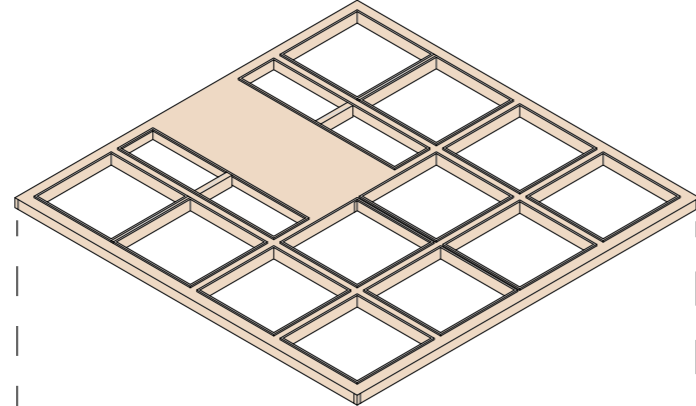
**SECTION B-B AND -CC**





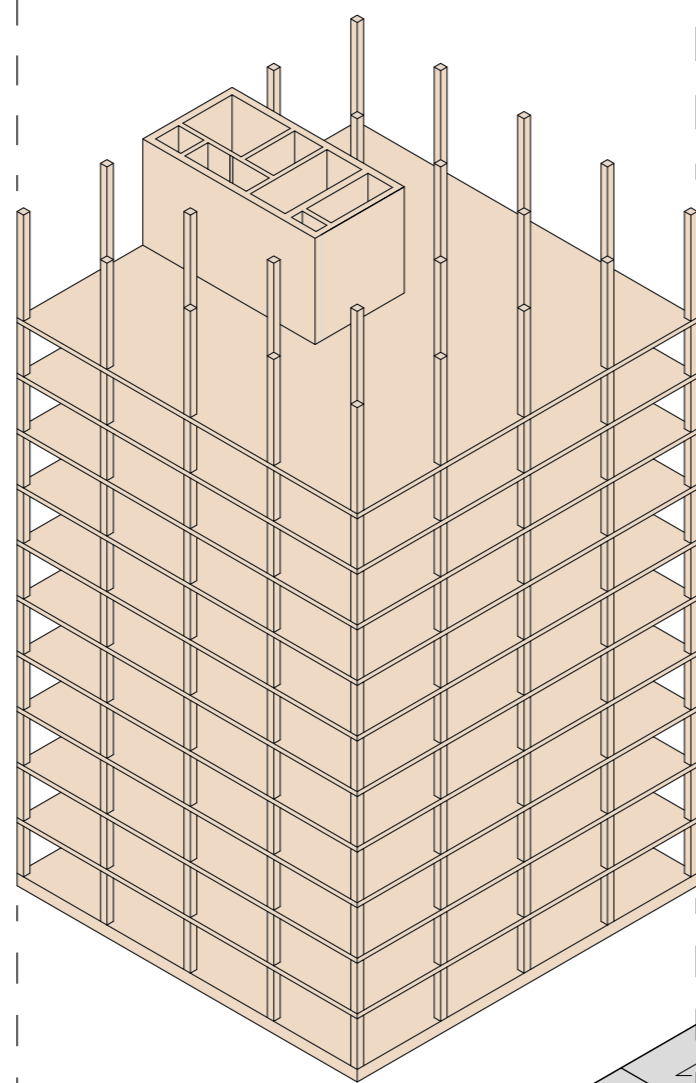
### TIMBER ROOF STRUCTURE

THE GREENHOUSE ROOF IS ALMOST FULLY MADE OF GLASS PANELS THAT CAN BE OPENED IN MANY DIFFERENT CONFIGURATIONS FOR VENTILATION. THE STRUCTURE IS SUPPORTED BY GLULAM BEAMS WITH MOMENT RESISTING CONNECTIONS.



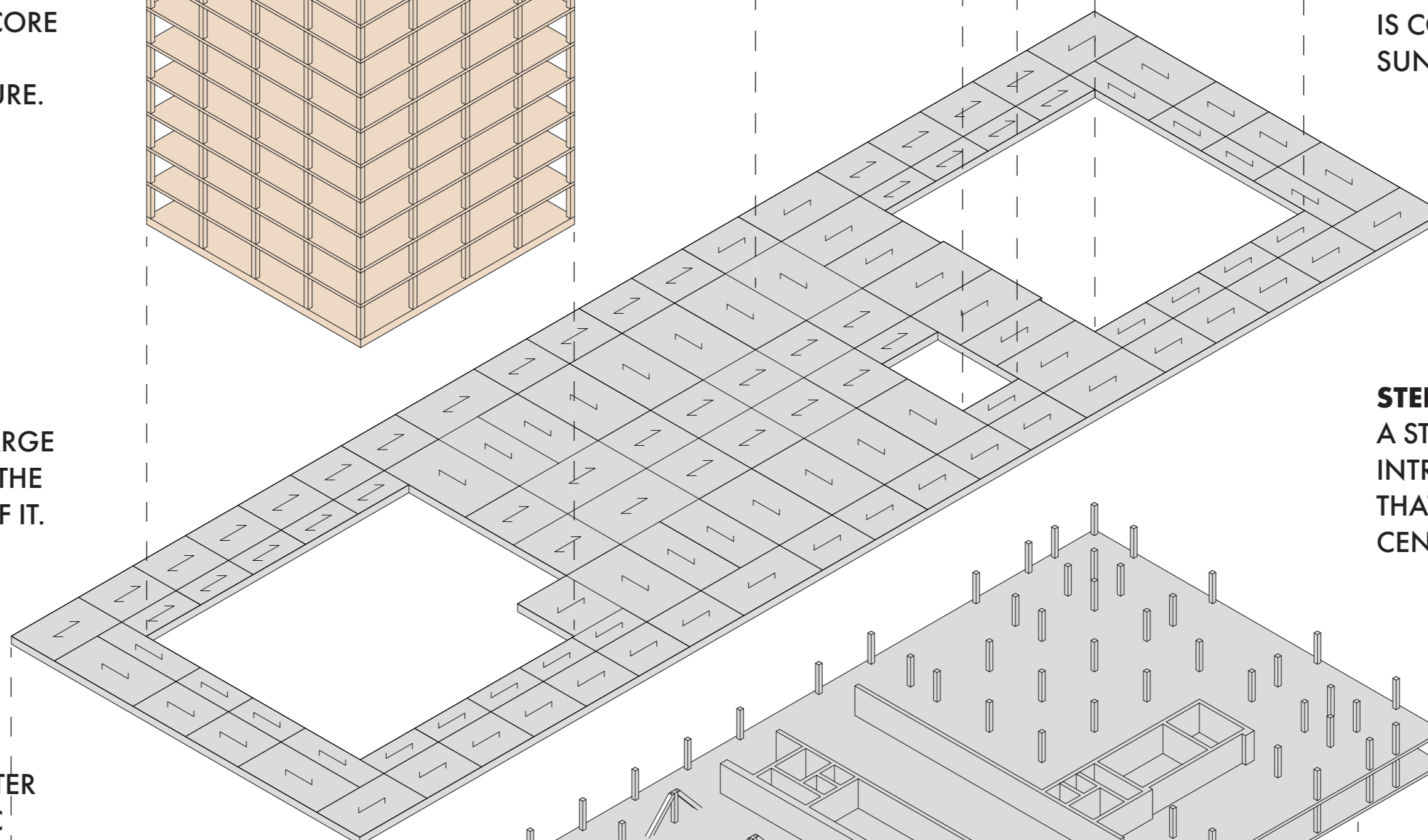
### GREENHOUSE TOWER STRUCTURE

GLULAM COLUMNS, A CLT CORE AND FLOORS CREATE A SPACIOUS OPEN FLOOR PLAN. IT ALLOWS FOR FLEXIBILITY AND MAXIMIZES THE POTENTIAL GROWING AREA FOR CROPS WHILE MINIMIZING MATERIAL USE. THE CORE IS OFFSET TO THE NORTHERN FACADE TO MAXIMIZE SOUTHERN SUNLIGHT EXPOSURE.



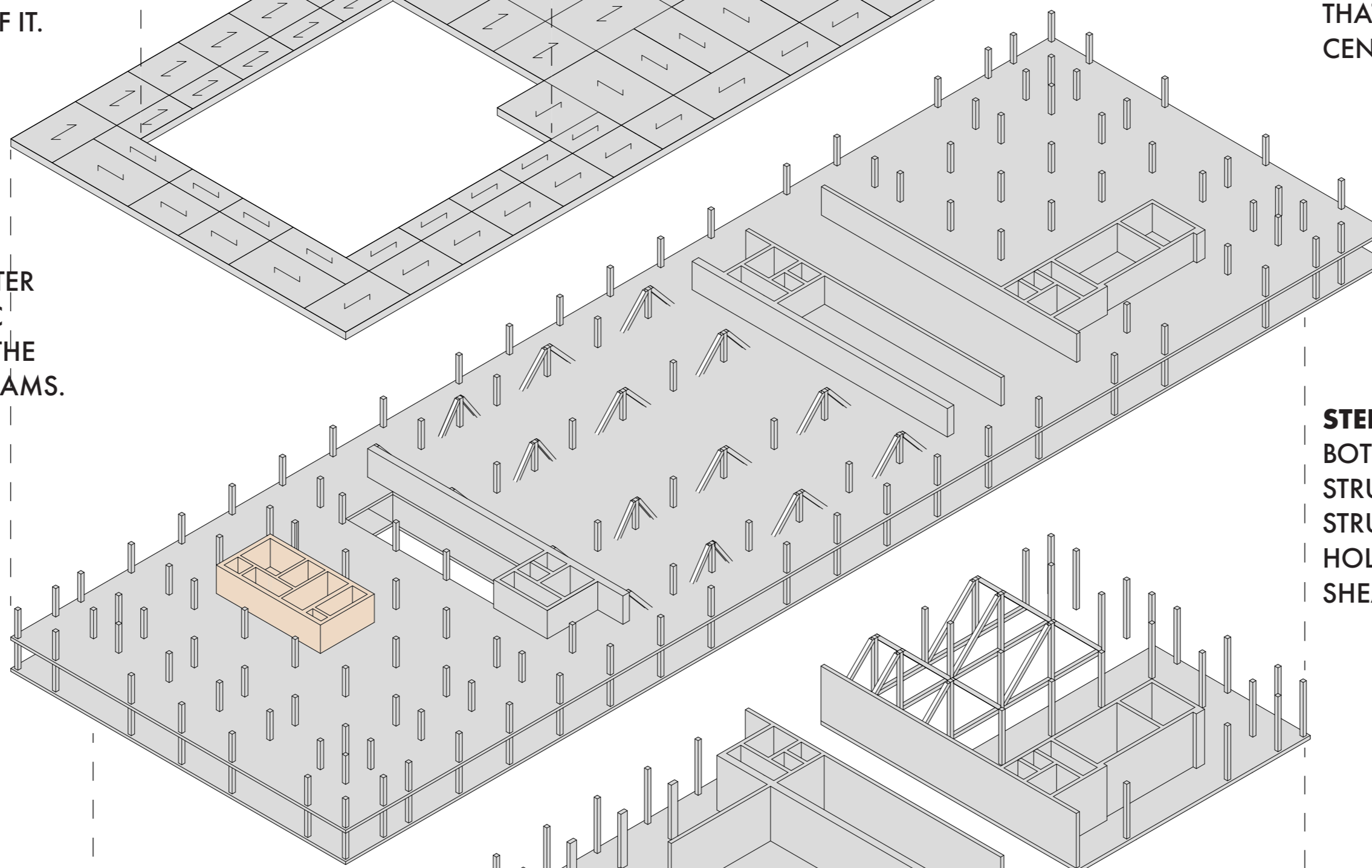
### HOLLOW CORE SLAB ROOF

THE ROOF GARDEN IS SUPPORTED BY CONCRETE HOLLOW CORE SLABS. THIS CHOICE WAS INFORMED BY BOTH THE LARGE SPANS AS WELL AS IT BEING SUITED FOR THE HEAVY LOADS FROM THE SOIL ON TOP OF IT.



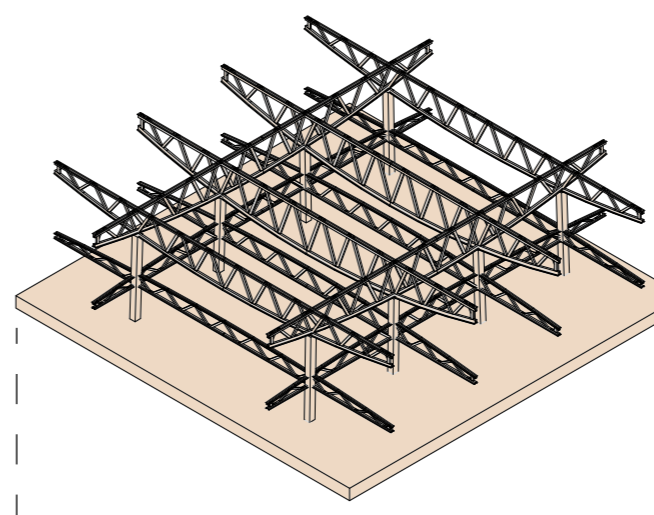
### CANTILEVERING DATA CENTER

THE OUTER PERIMETER OF THE DATA CENTER CANTILEVERS 5800 MM OVER THE PUBLIC SPACE. THIS IS ACHIEVED BY SPANNING THE FLOORS BETWEEN PROTRUDING STEEL BEAMS.



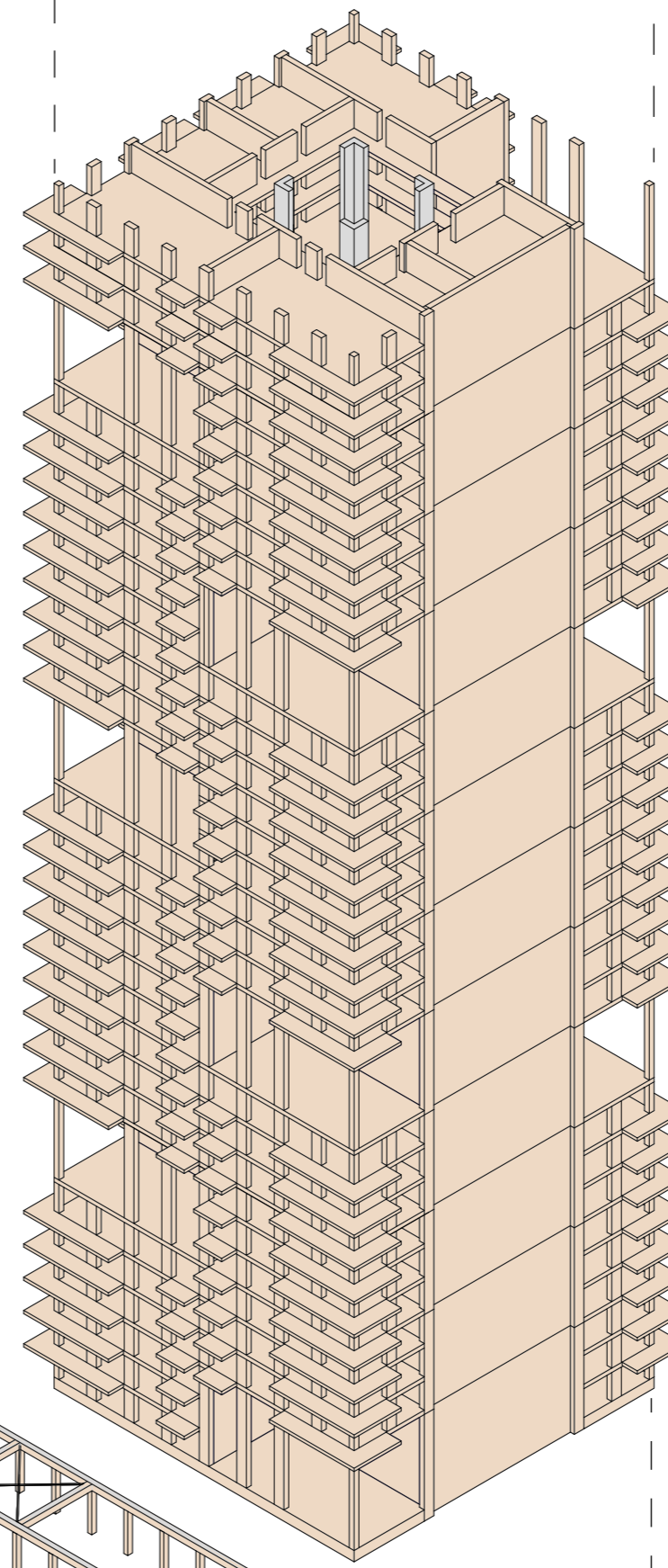
### GLULAM TRUSS

THE LIGHTWEIGHT VENTEC ROOF (EWF) IS SUPPORTED BY A GLUED LAMINATED TRUSS (GLULAM). THE SYSTEM EXPLOITS WIND PRESSURE TO SUPPLY AND EXTRACT WIND FROM THE BUILDING.



### CONCRETE DATA CORE

THE CHOICE OF USING CONCRETE FOR THE DATA CORE IS BASED ON ISOLATING THE COMPLETE INNER STRUCTURE FROM THE OUTER STRUCTURE FOR BOTH FIRE SAFETY, NOISE AND ACHIEVING A CONSISTENT CLIMATE. IT IS NOT REQUIRED TO ACHIEVE STABILITY, AS THE TIMBER STRUCTURE PROVIDES SUFFICIENT SUPPORT.

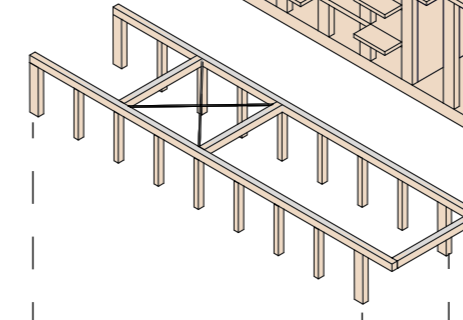


### TIMBER HIGH-RISE STRUCTURE

LOAD BEARING GLULAM COLUMNS IN THE FACADE ARE SUPPORTED BY SHEAR WALLS MADE FROM CROSS LAMINATED TIMBER (CLT) FOR ACHIEVING STABILITY. CLT FLOORS PROVIDE THE REQUIRED RIGIDITY. THE MAIN CORE IS OFFSET TO THE SOUTHERN FACADE FOR MAXIMIZING SUNLIGHT EXPOSURE TO THE SOLAR CHIMNEY.

### ROOF GARDEN PAVILLION

GLULAM COLUMNS AND BEAMS ARE COMBINED WITH STEEL BRACING IN THE ROOF TO ACHIEVE STABILITY OF THE STRUCTURE. IT IS COVERED WITH A GLASS ROOF THAT IS COVERED IN WOODEN SLATS TO FILTER SUNLIGHT AND CREATE SHADING.



### STEEL TRUSS

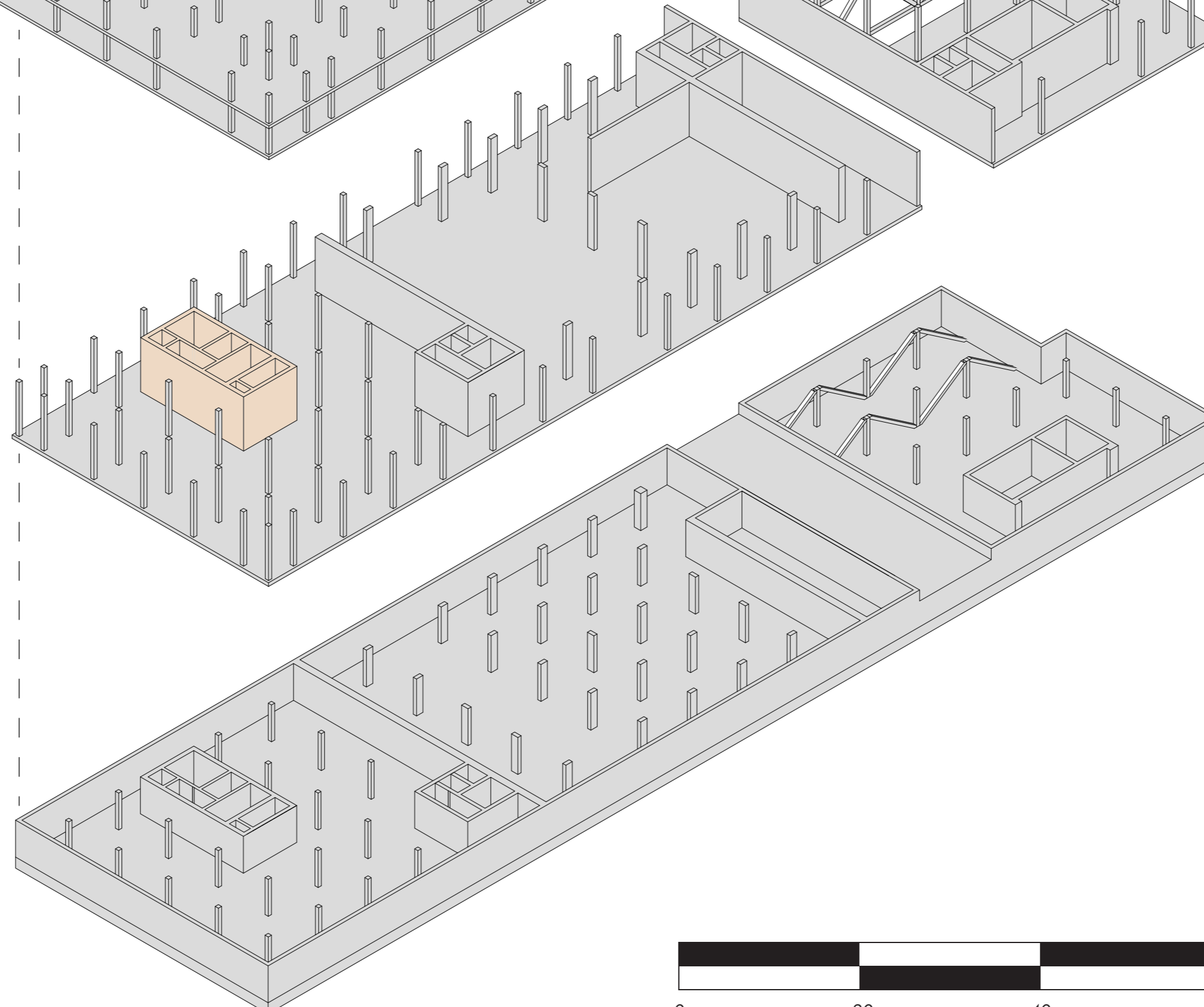
A STEEL TRUSS THAT SPANS TWO FLOORS IS INTRODUCED TO ACHIEVE THE LARGE SPANS THAT ARE REQUIRED TO KEEP THE SPORTS CENTER FREE OF COLUMNS.

### STEEL AND CONCRETE PODIUM

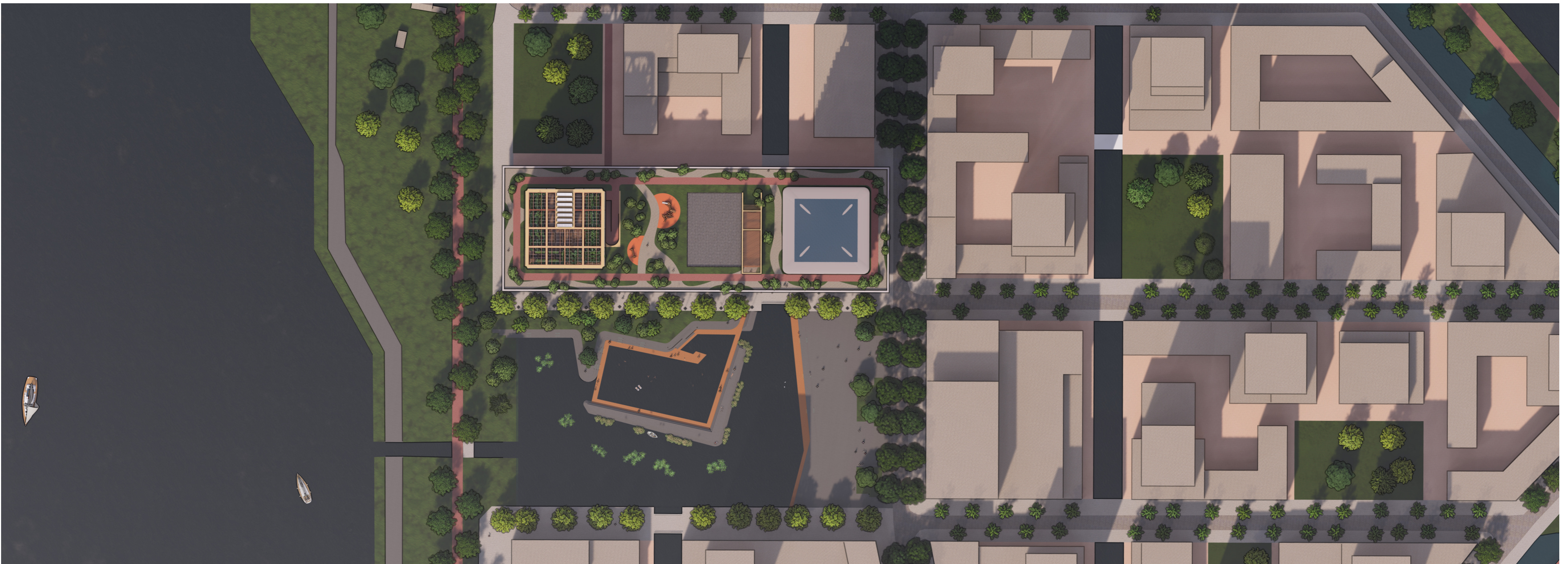
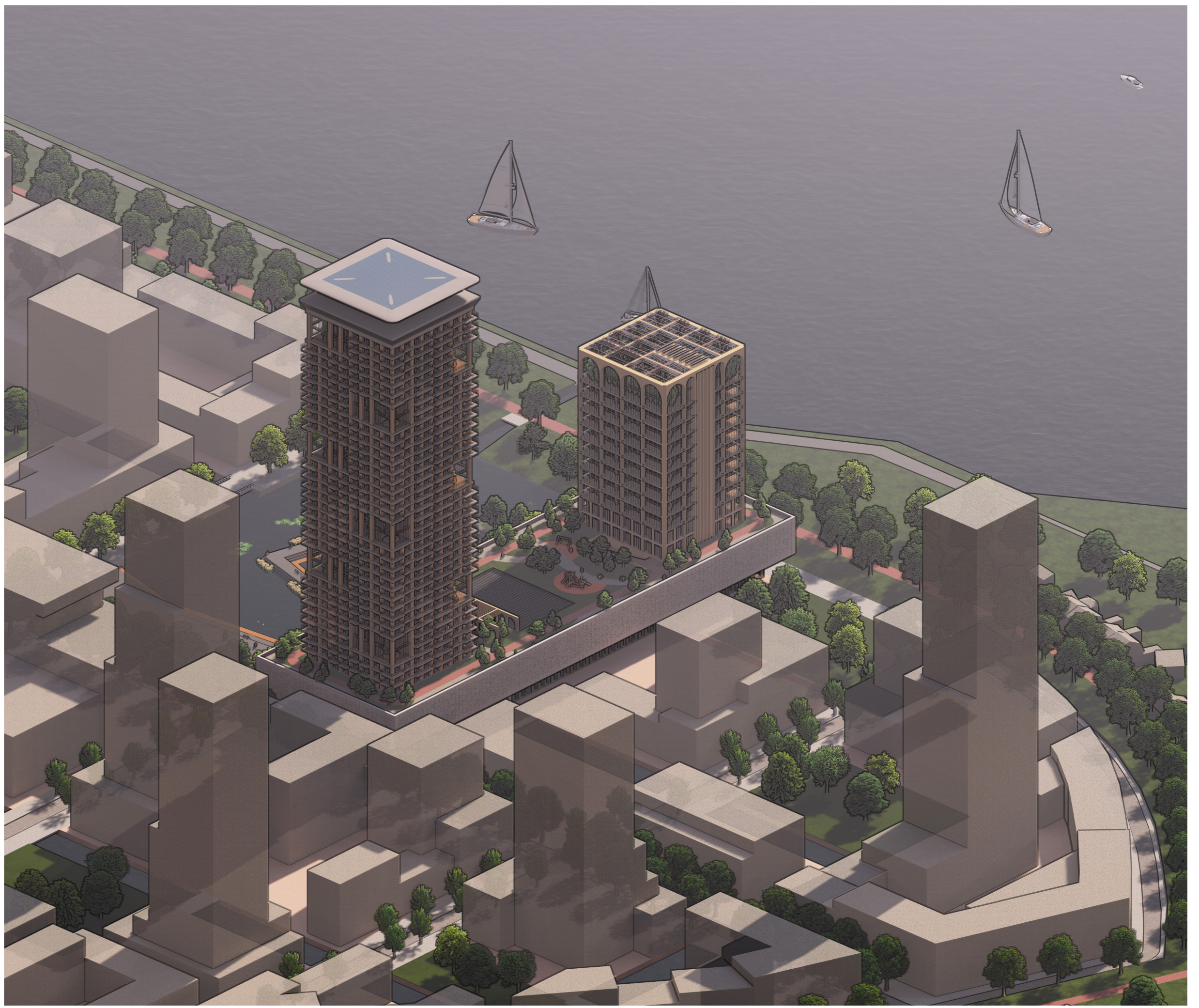
BOTH THE PLINTH AND THE DATA CENTER STRUCTURE RELY ON A LOAD-BEARING STRUCTURE OF STEEL COLUMNS, CONCRETE HOLLOW CORE SLAB FLOORS AND CONCRETE SHEAR WALLS TO ACHIEVE STABILITY.

### BASEMENT

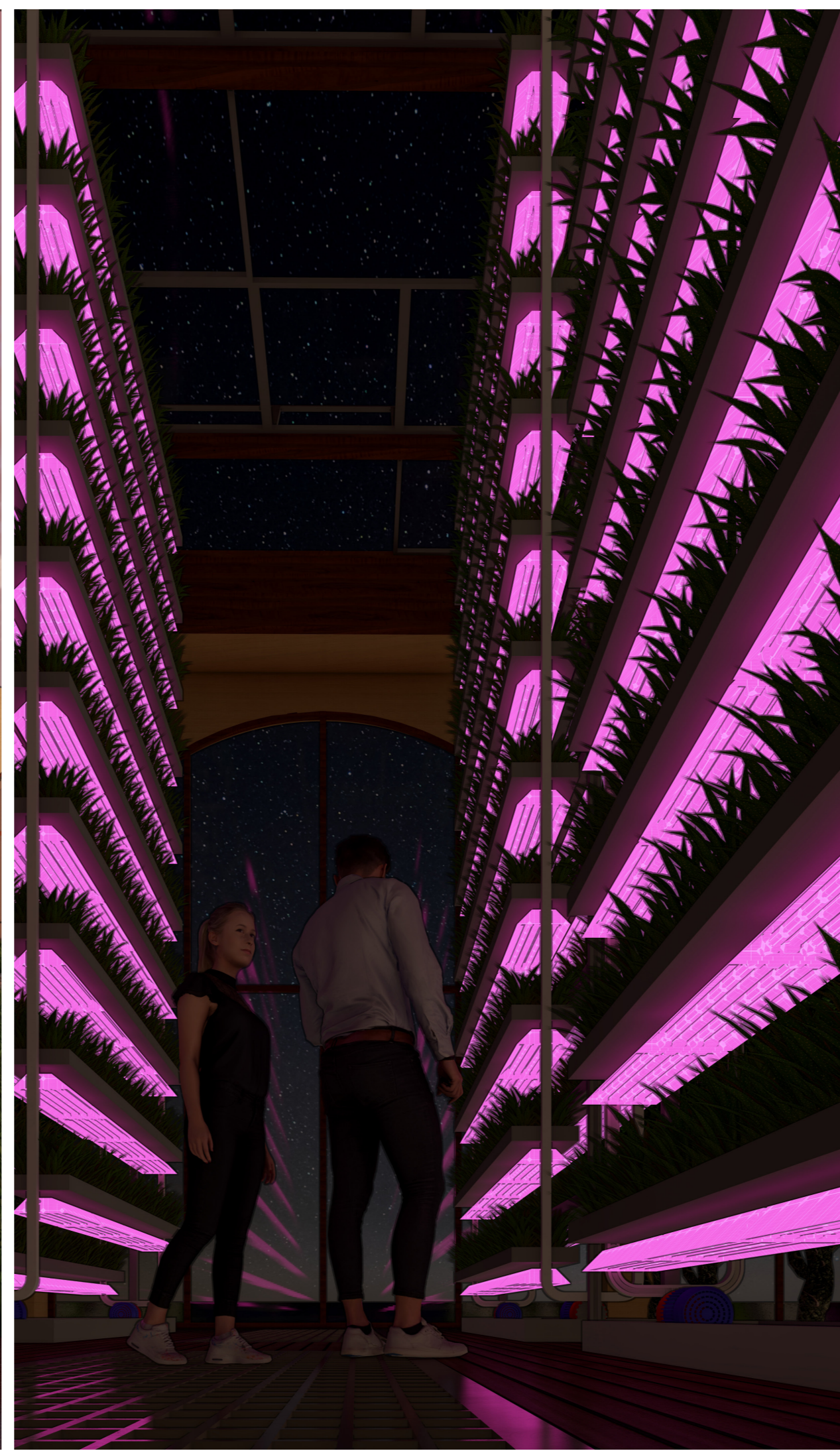
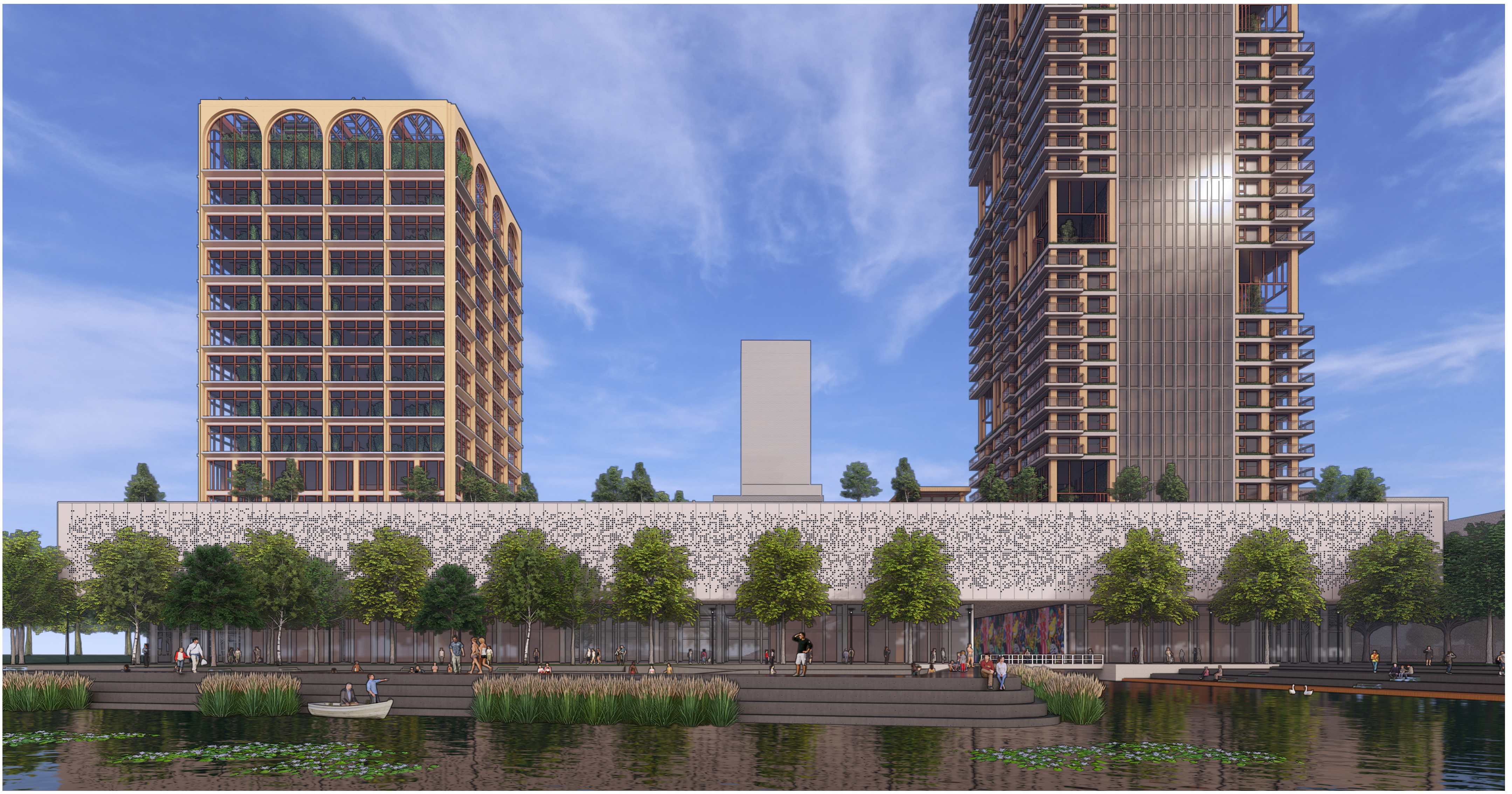
ALL FORCES FROM THE STRUCTURES ON TOP ARE DIRECTED THROUGH THE BASEMENT TO THE PILING UNDERNEATH IT (SEE SECTIONS). THE WATER FLOWING ABOVE DIVIDES THE BASEMENT IN TWO SECTIONS (SEE PLANS).







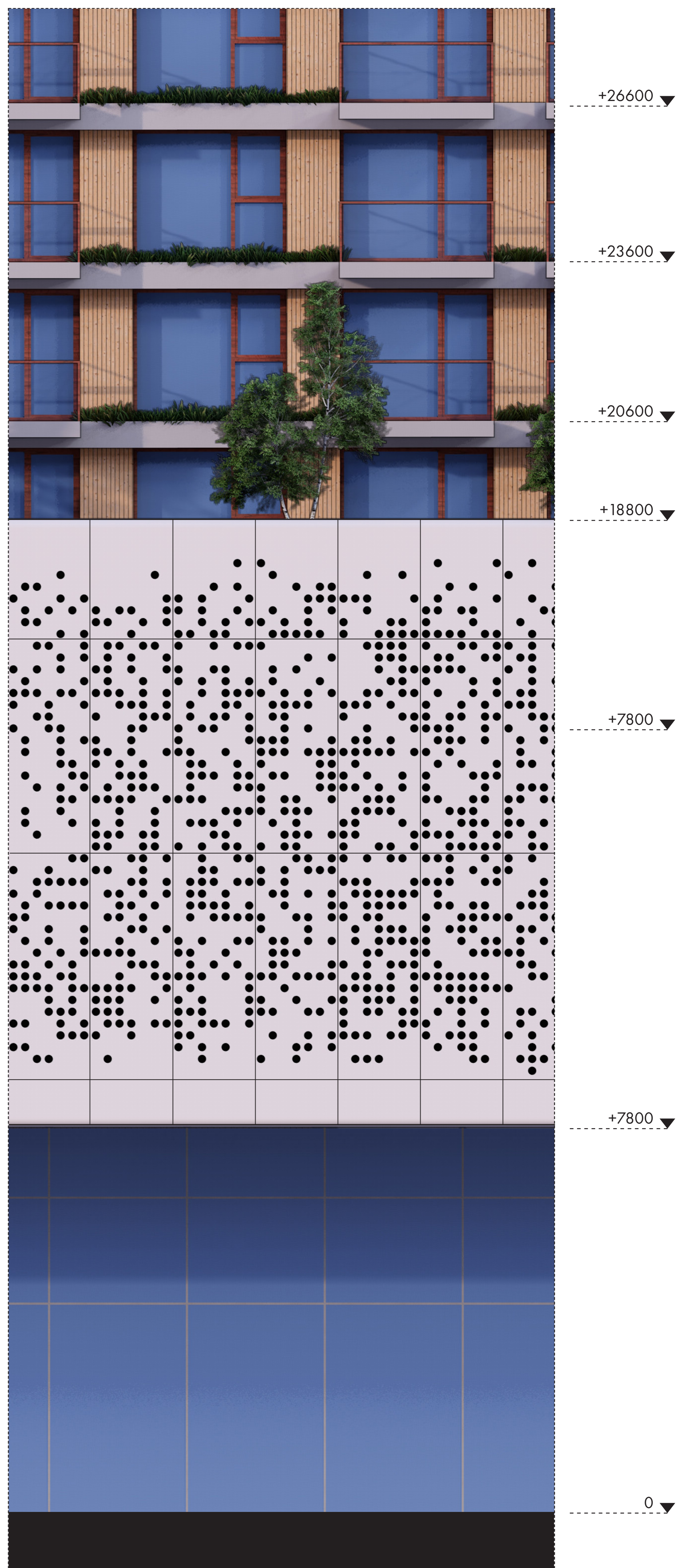
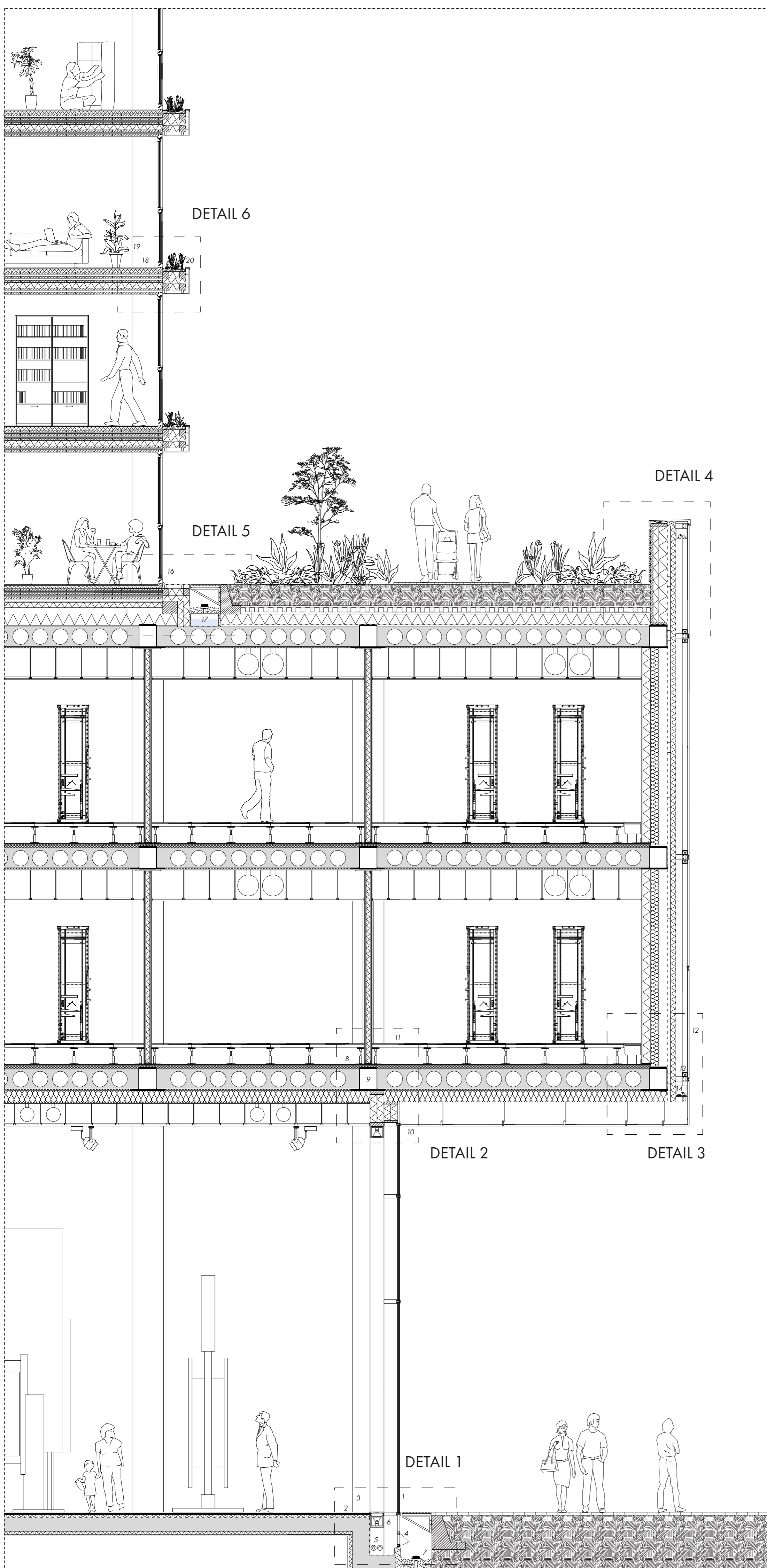




VISUALIZATIONS  
EXTERIOR AND INTERIOR

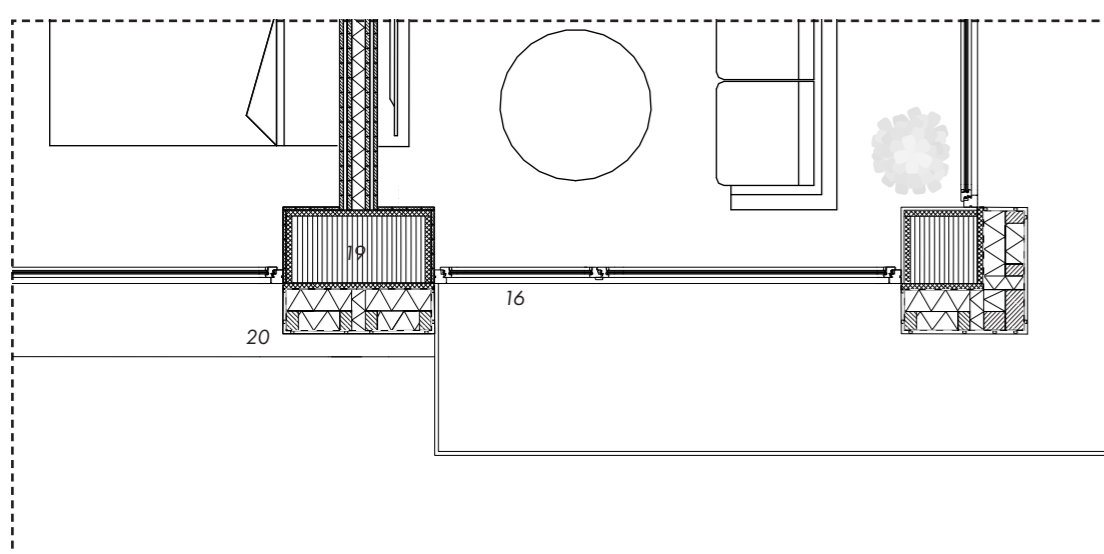


**VERTICAL DETAILS AND FRAGMENT**

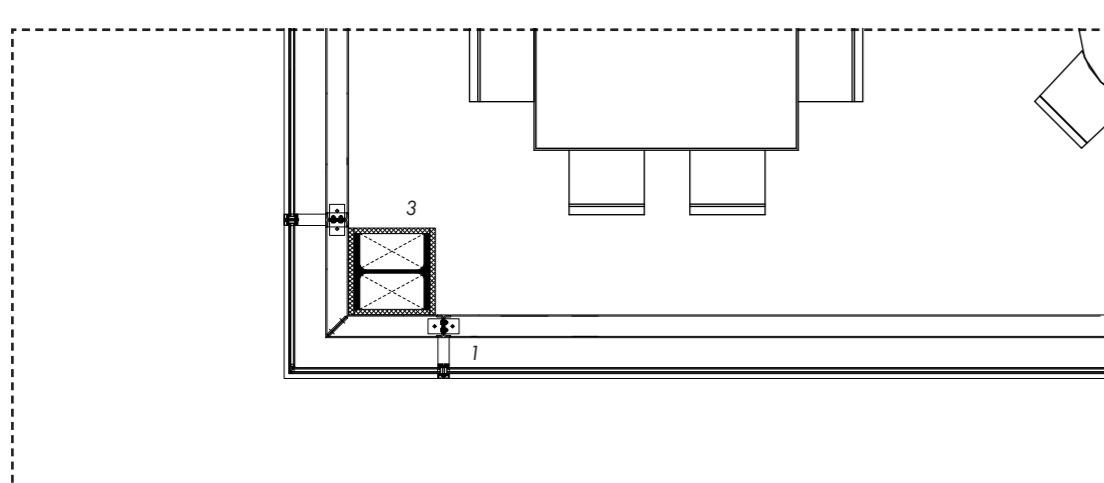


**HORIZONTAL DETAILS**

**RESIDENTIAL TOWER**



**PLINTH**



- 1 TRIPLE GLAZED CURTAIN WALL SYSTEM  
STEEL BRACKET SUPPORT  
IPE 160 FACADE STRUCTURE
- 2 40MM FLOATING FLOOR FINISH  
UNDERFLOOR HEATING  
60 MM INSULATION  
BITUMINOUS SEALING LAYER  
260MM CONCRETE HOLLOW CORE SLAB  
60 MM INSULATION  
20 MM BASEMENT CEILING FINISH
- 3 BOLTED STRUCTURAL STEEL COLUMNS
- 4 AIR INLET FLAP PROVIDES (ADDITIONAL)  
NATURAL VENTILATION TO GROUND LEVEL
- 5 CONVECTOR HEATER
- 6 TIMBER BEAM WITH INTEGRATED LIGHTING
- 7 WATER DRAINAGE
- 8 75MM FIRE PROOF RIGID INSULATION  
320MM CONCRETE HOLLOW CORE SLAB  
200 MM CEILING INSULATION PANEL  
VENTILATION DUCTWORK  
CABLE CEILING HANGERS  
WOOD CEILING GRID

- 9 STEEL THQ BEAM
- 10 2MM PERFORATED FIBER CEMENT  
CLADDING PANELS
- 11 ADJUSTABLE SUPPORT PEDESTAL
- 12 ACCESS FLOOR PANELS  
2MM PERFORATED FIBER CEMENT  
FACADE CLADDING PANELS  
80/ 100 TIMBER PROFILES  
120MM CAVITY  
BITUMINOUS SEALING LAYER  
120MM INSULATED SANDWICH PANEL  
160 MM TIMBER SUBSTRUCTURE  
150MM MINERAL WOOL  
VAPOUR BARRIER  
MODULAR WALL SYSTEM
- 13 FACADE LIGHTING SYSTEM
- 14 BIRDHOUSE ACCESSIBLE THROUGH  
PERFORATED PANELS
- 15 ROOF SUBSTRATE LAYER  
FILTER LAYER

- DRAINAGE LAYER (SLOPED)  
PROTECTION MAT  
WATERPROOF MEMBRANE  
200 MM INSULATION  
VAPOUR CONTROL LAYER
  - 16 SPRUCE WINDOW FRAMES WITH LOW  
E-TRIPLE GLAZING
  - 17 RAINWATER STORAGE FOR GARDEN
  - 18 FLOATING FLOOR WITH HEATING  
140 MM CROSS LAMINATED TIMBER  
160 MM THERMAL INSULATION  
100 MM CROSSLAMINATED TIMBER
  - 19 GLULAM COLUMNS
  - 20 SOFTWOOD CLADDING  
TIMBER PROFILES  
SOIL WITH LIGHT PLANTING  
VAPOUR RETARDING-LAYER  
MINERAL WOOL INSULATION
  - 21 PRE-FABRICATED INSULATED  
TIMBER ELEMENTS WITH REGIONAL  
SOFTWOOD FACADE CLADDING
- SEE FLOOR PLANS FOR DETAIL POSITIONS





