

FUSION SCIENTIA

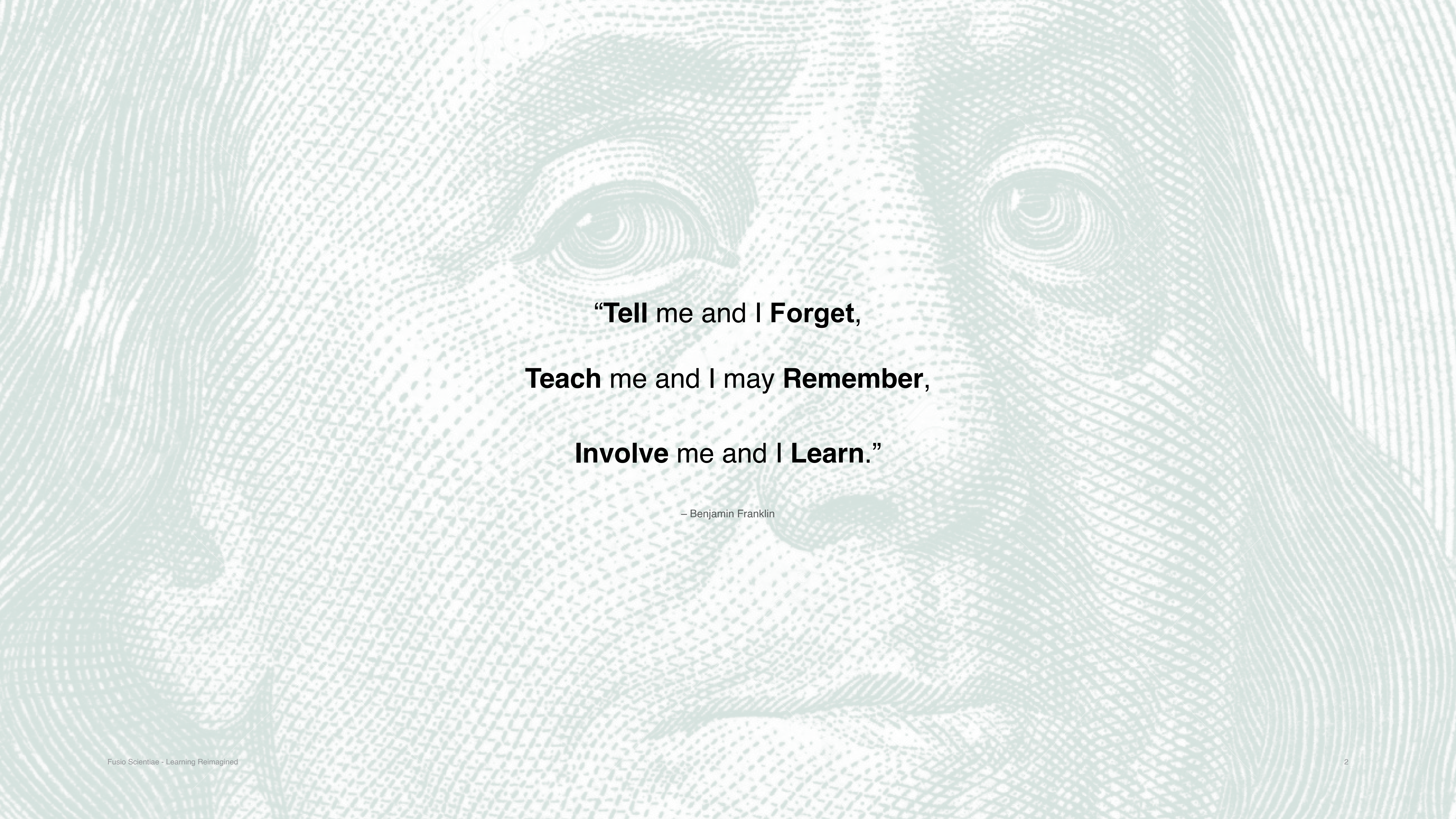
More Than Just a Campus



Chiel Vlutters

P5 Presentation
November 1st

Public Building Graduation Studio | 2023-24

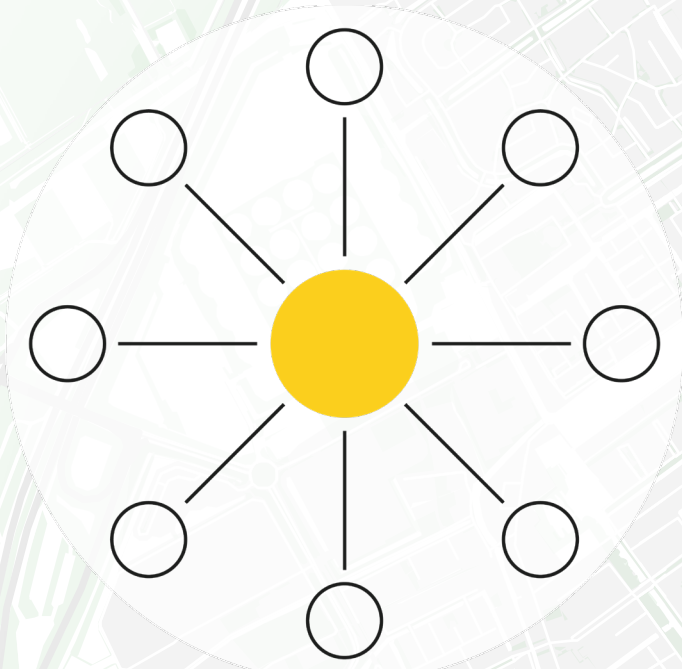


**“Tell me and I Forget,
Teach me and I may Remember,
Involve me and I Learn.”**

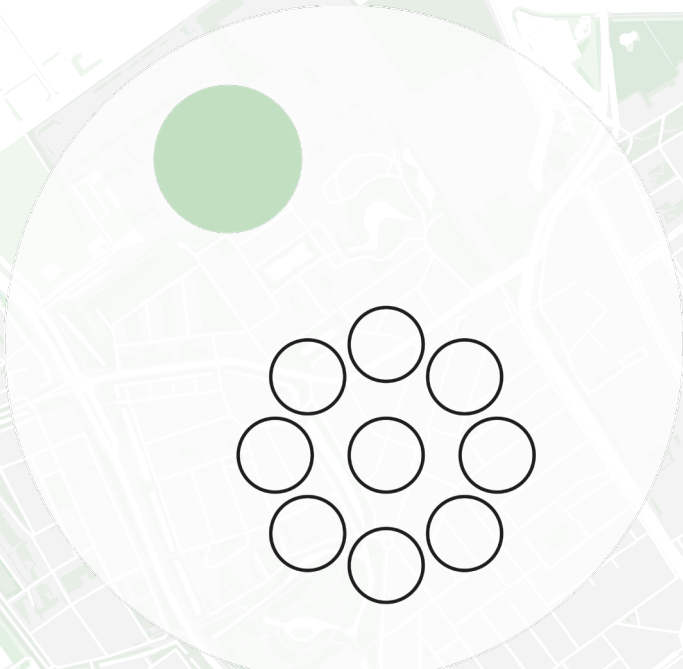
– Benjamin Franklin

Traditional Campus

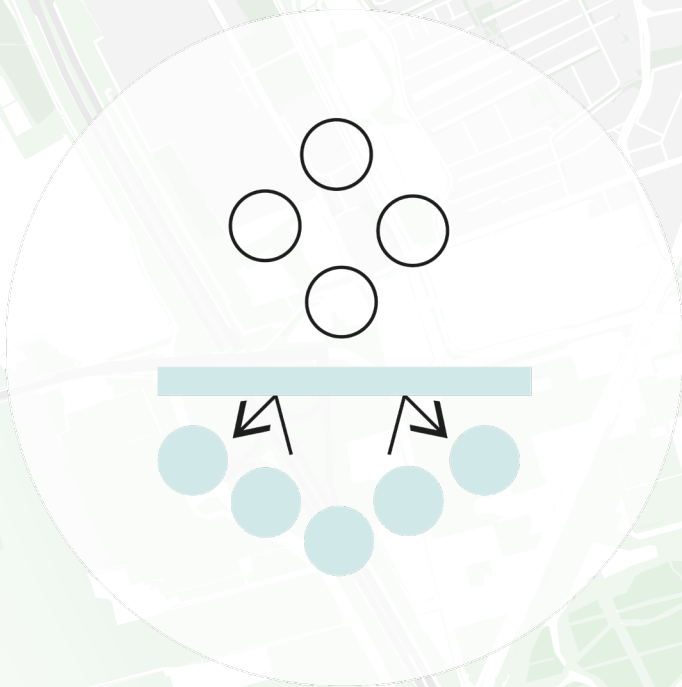
Centralised



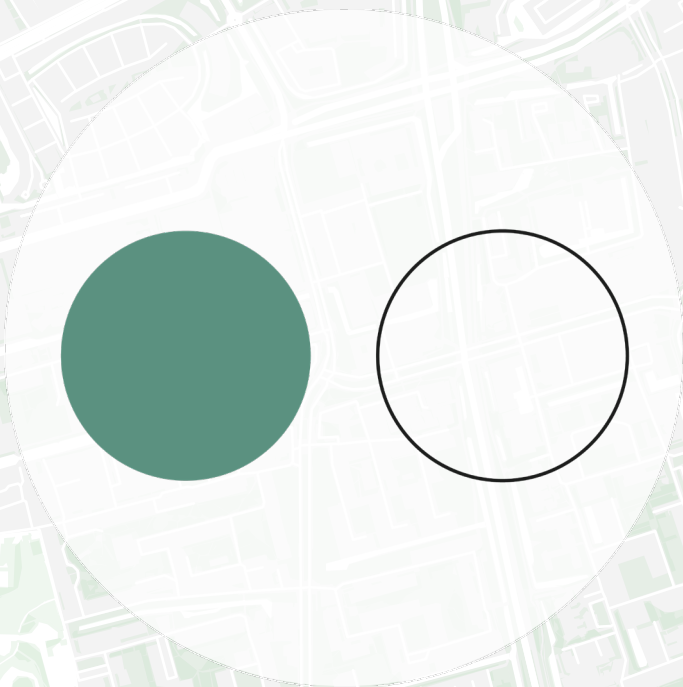
Centralized



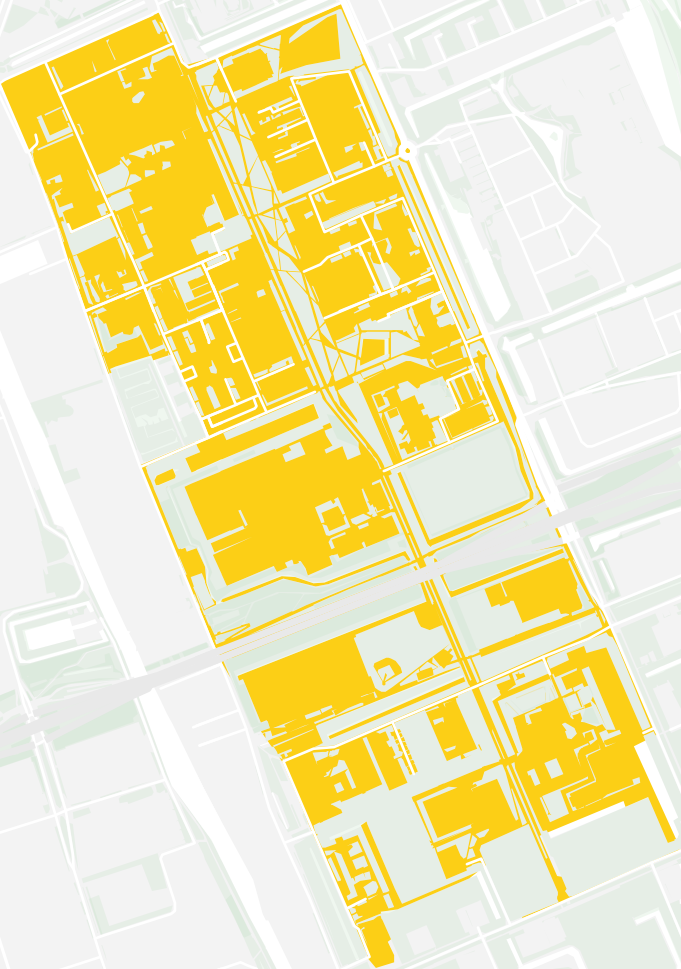
Isolated



Inaccessible

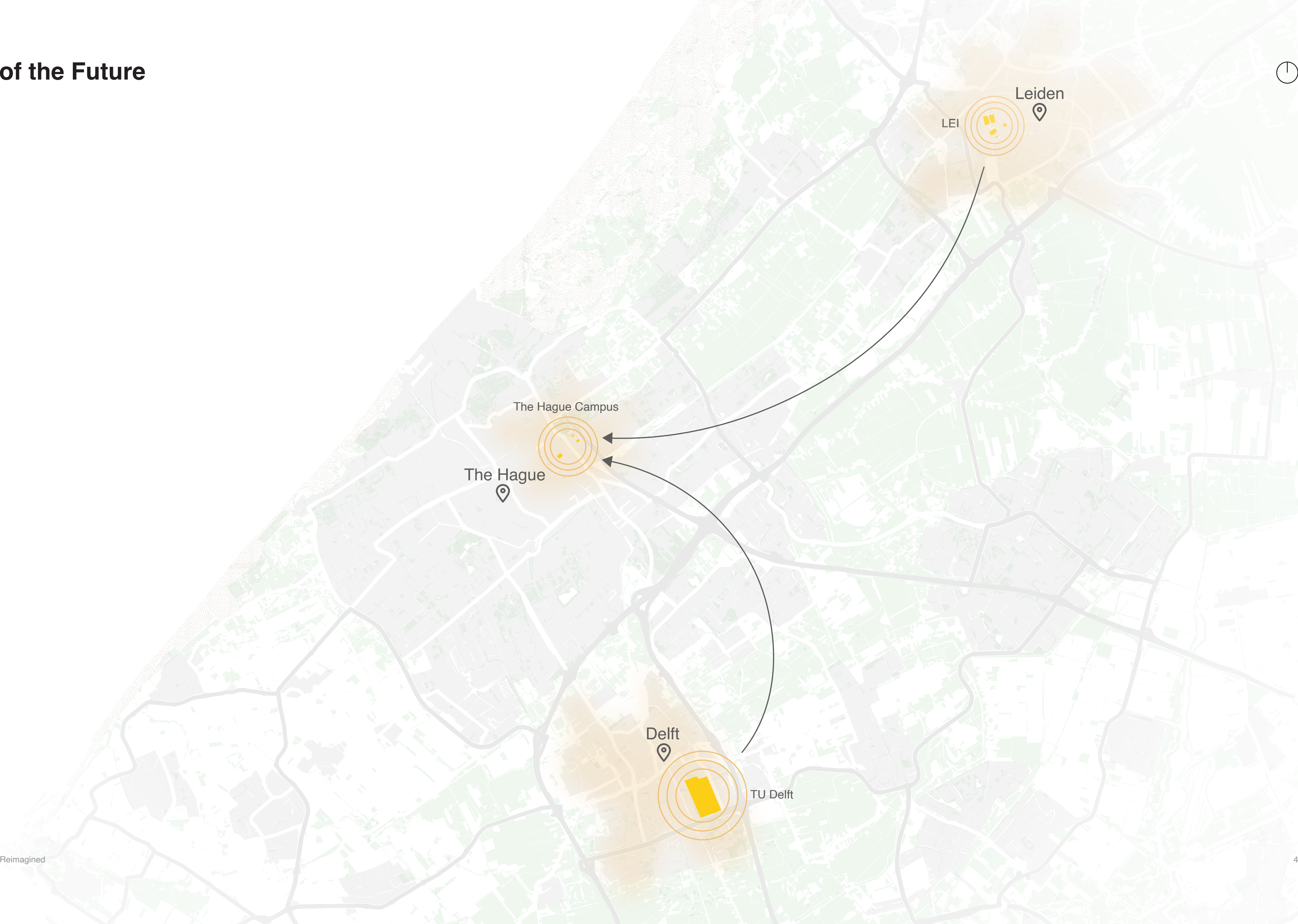


Exclusive



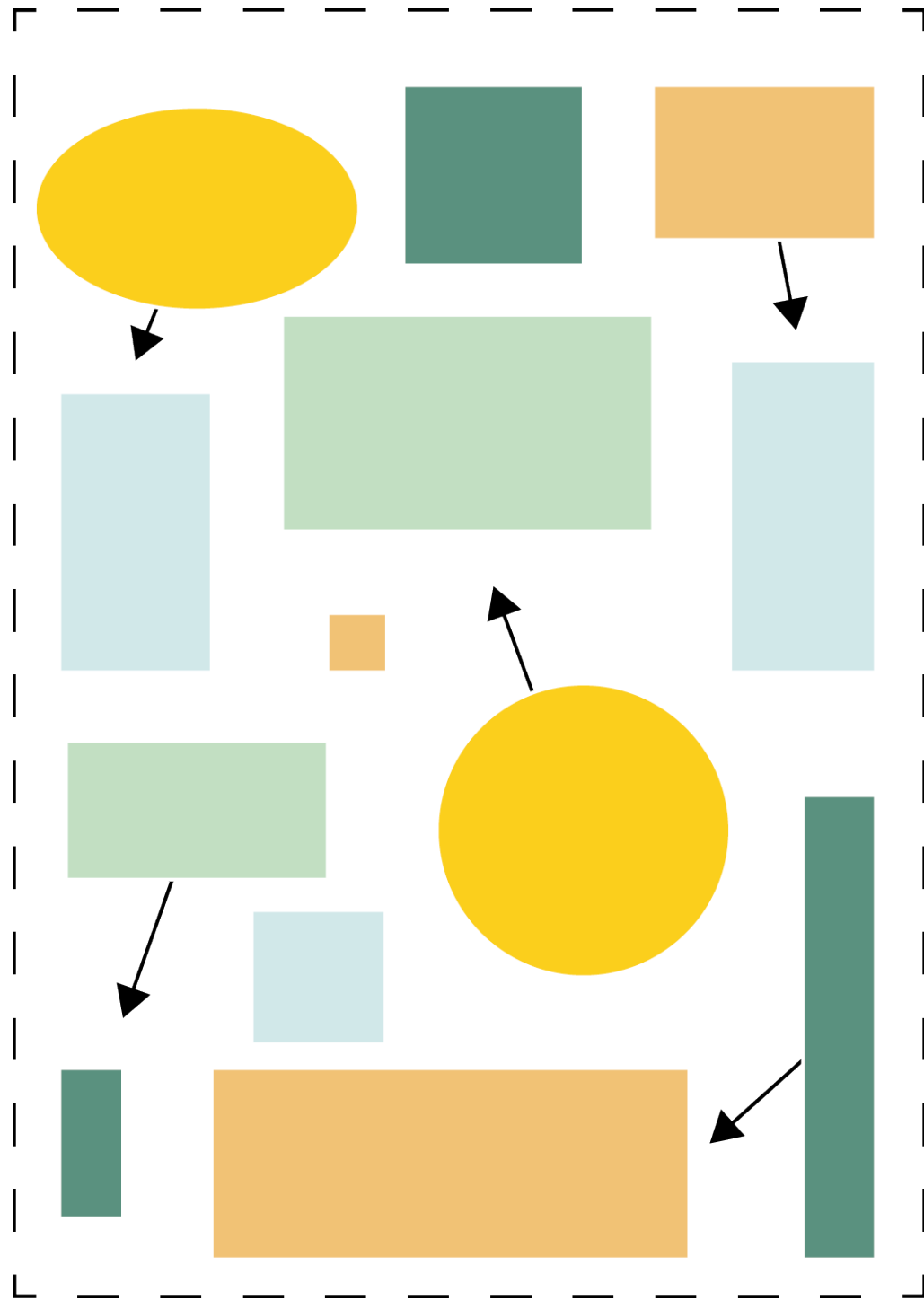
Campus of the Future

Opportunities

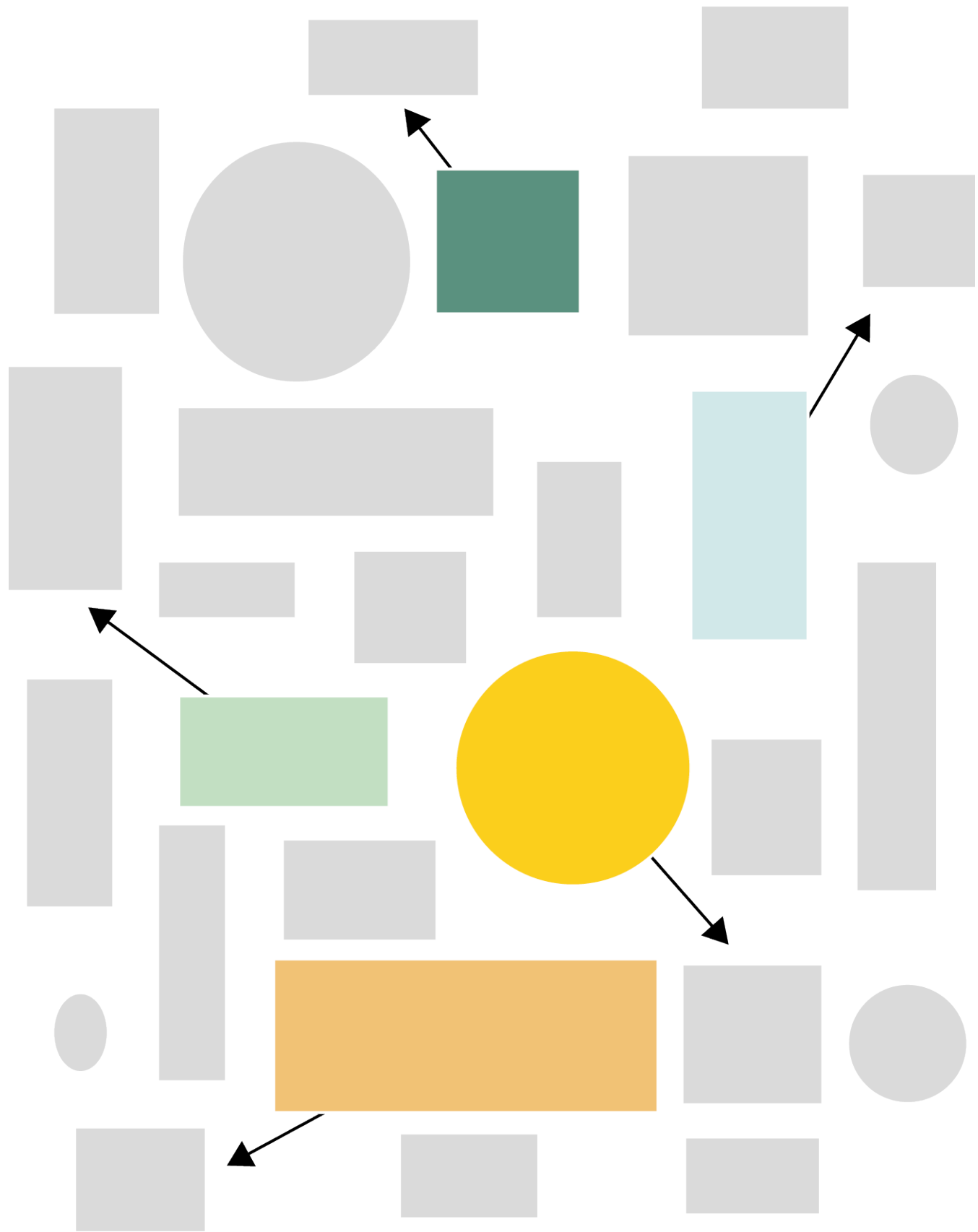


Campus of the Future

Distribution of knowledge



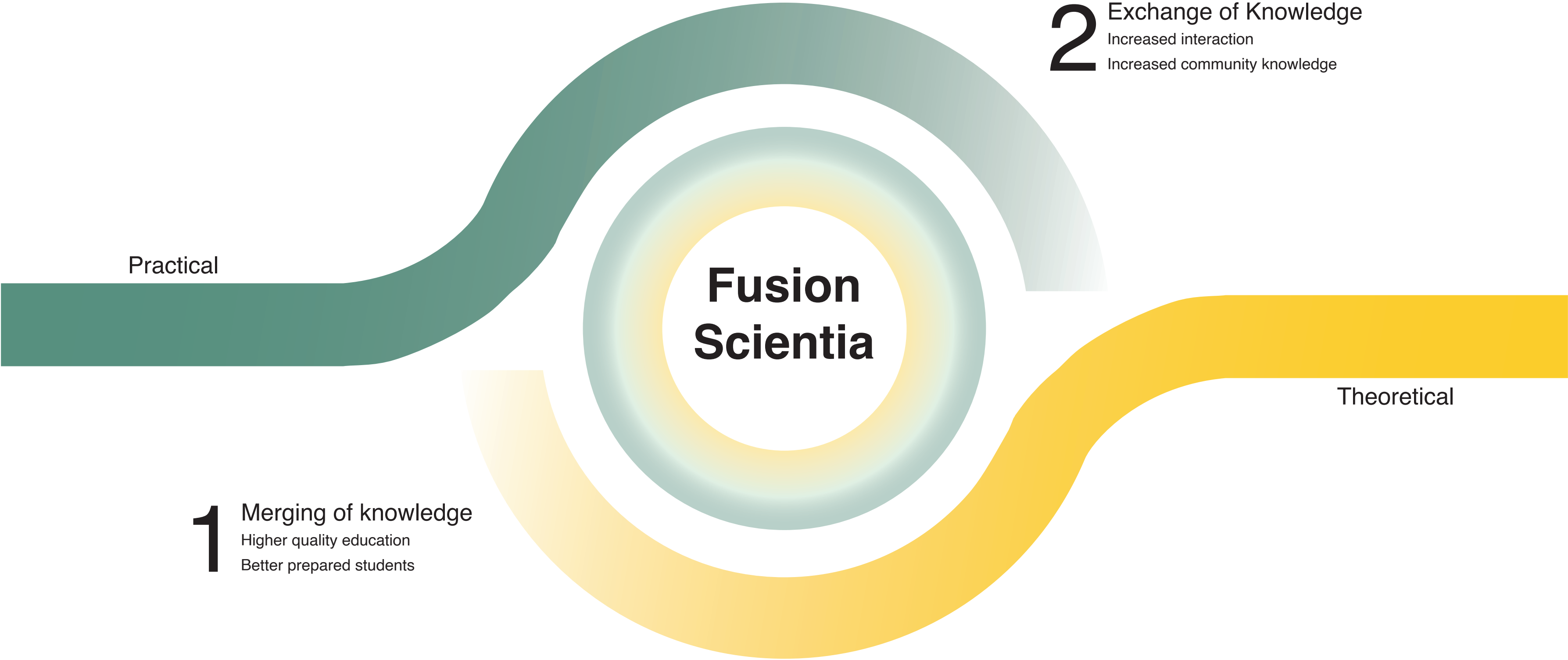
Knowledge containment



Knowledge sharing

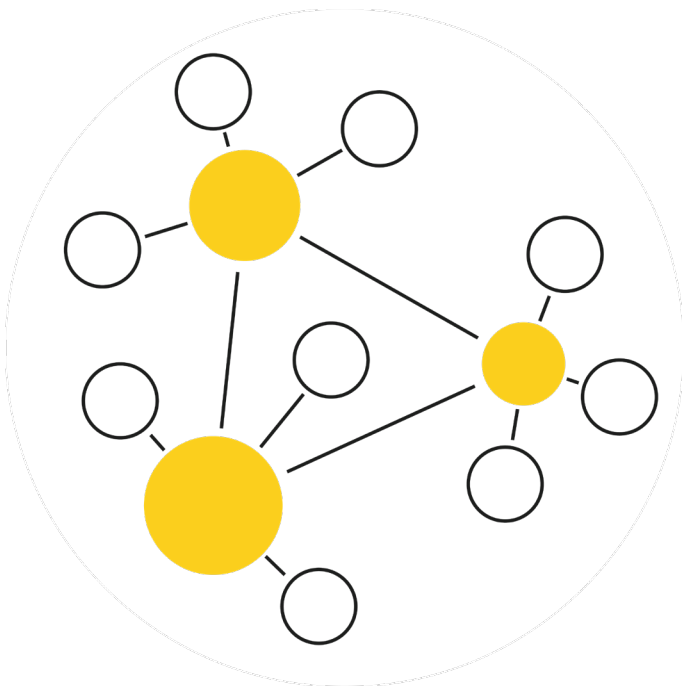
Fusio Scientea

Concept

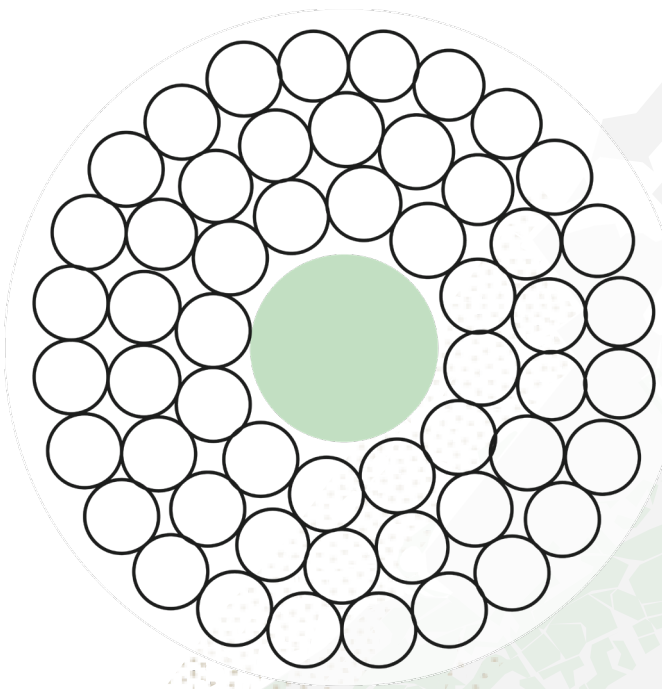


Campus of the Future

Summary



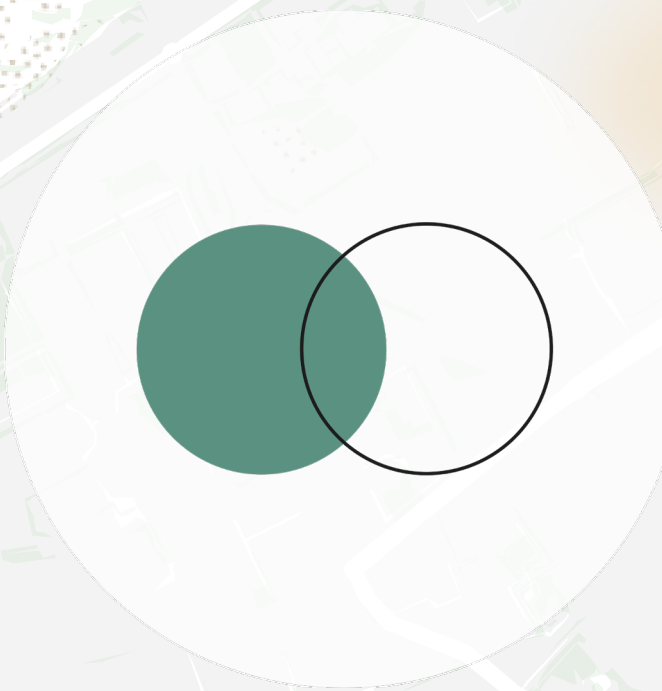
Decentralized



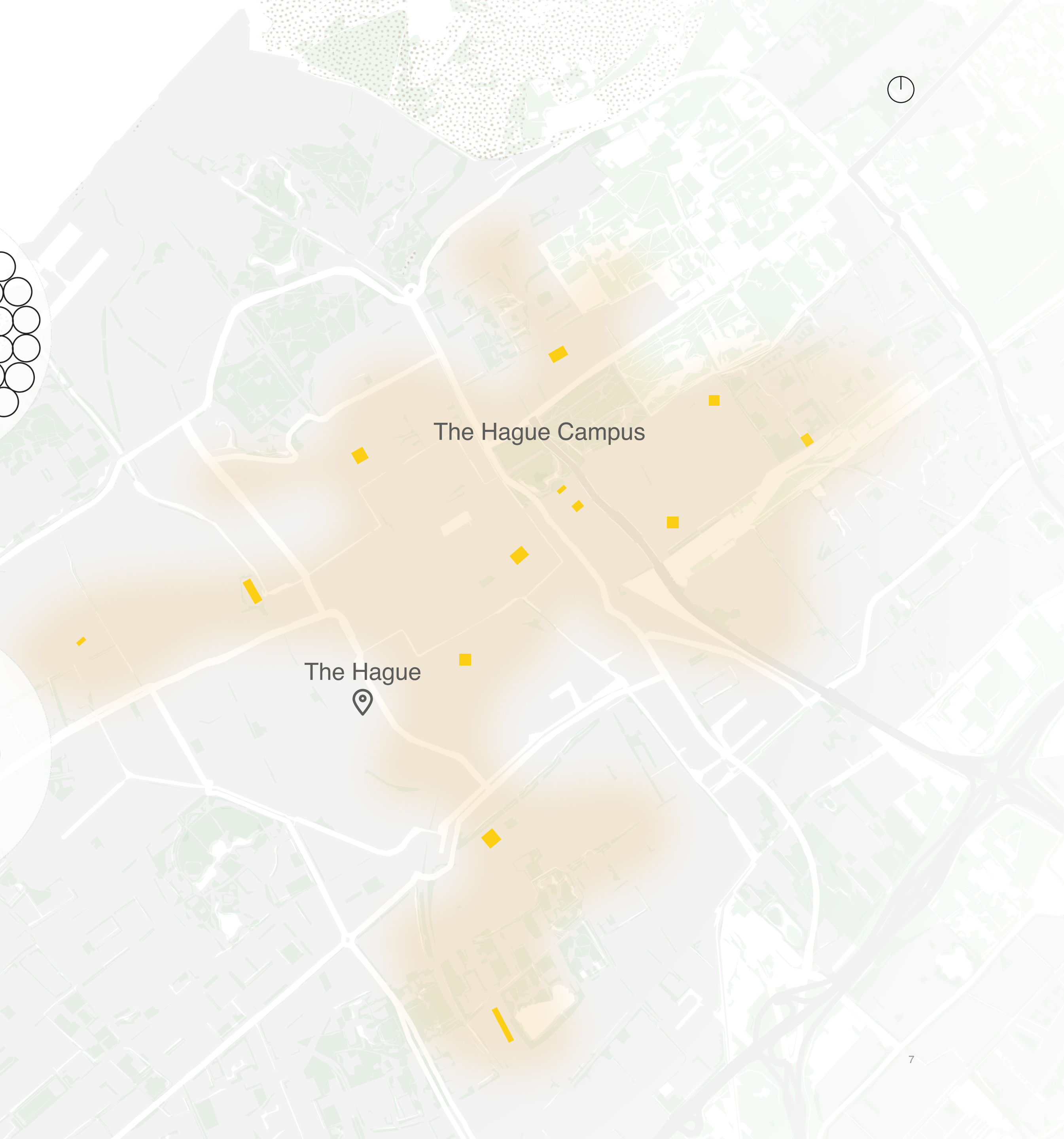
Integrated



Accessible



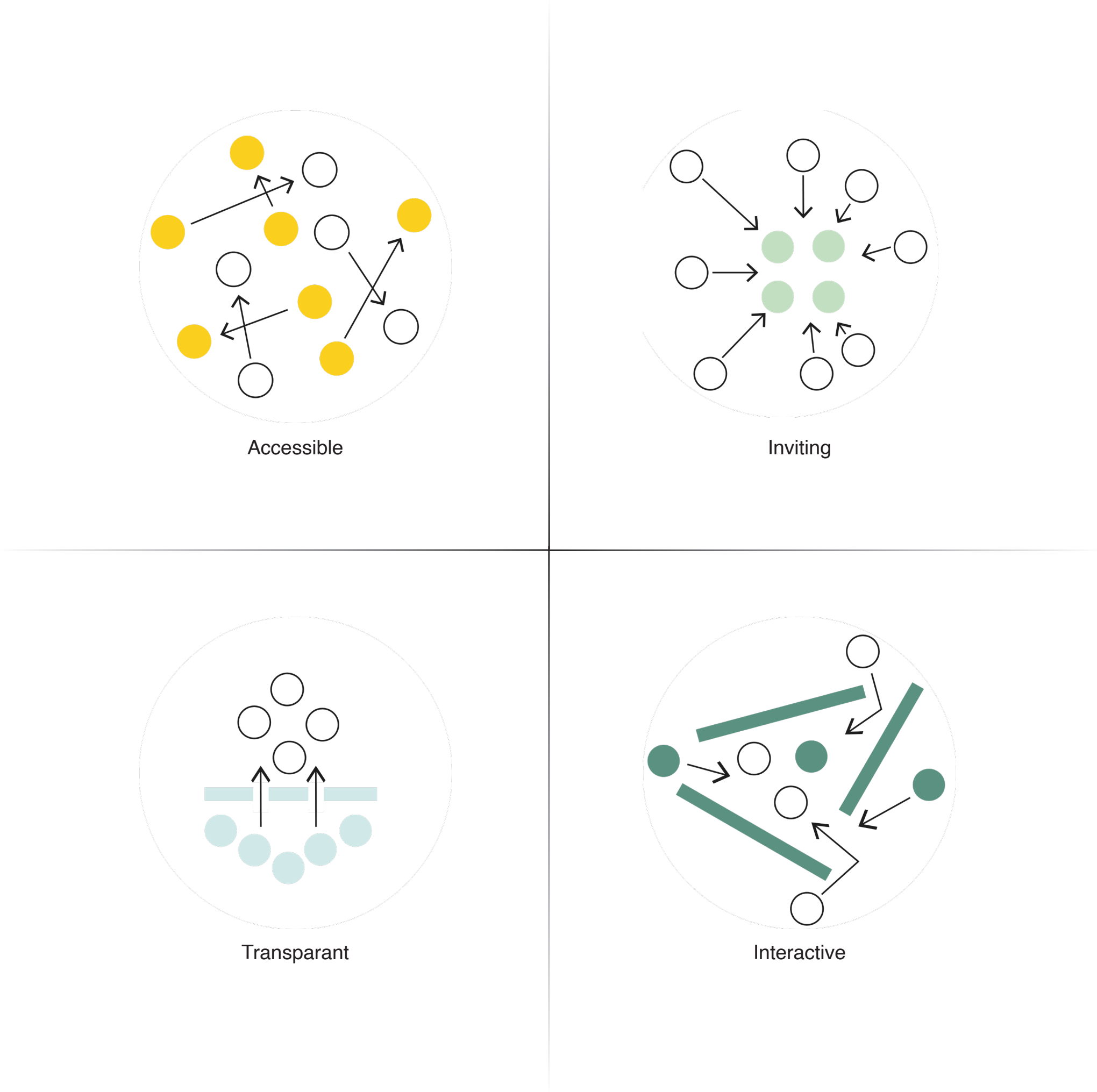
Inclusive



Ambition

Research Question

“Establish an interactive **lifelong-learning environment** wherein **teachers**, **students**, and **visitors** can mutually learn from, and inspire one another.



Site Analysis
Districts



Site Analysis

Flows



Pedestrians & Cyclists



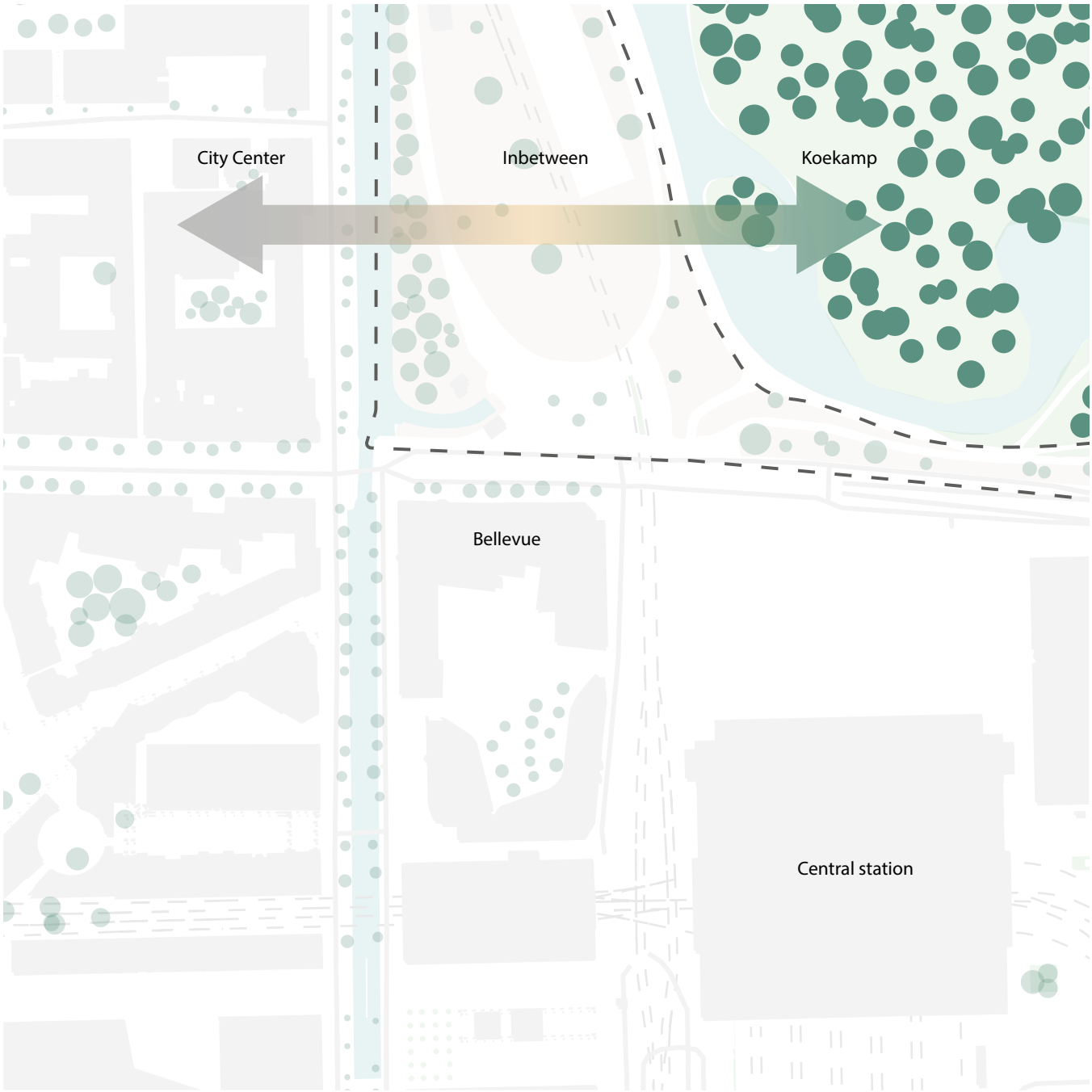
Trams



Cars

Site Analysis

Central Station



City Center



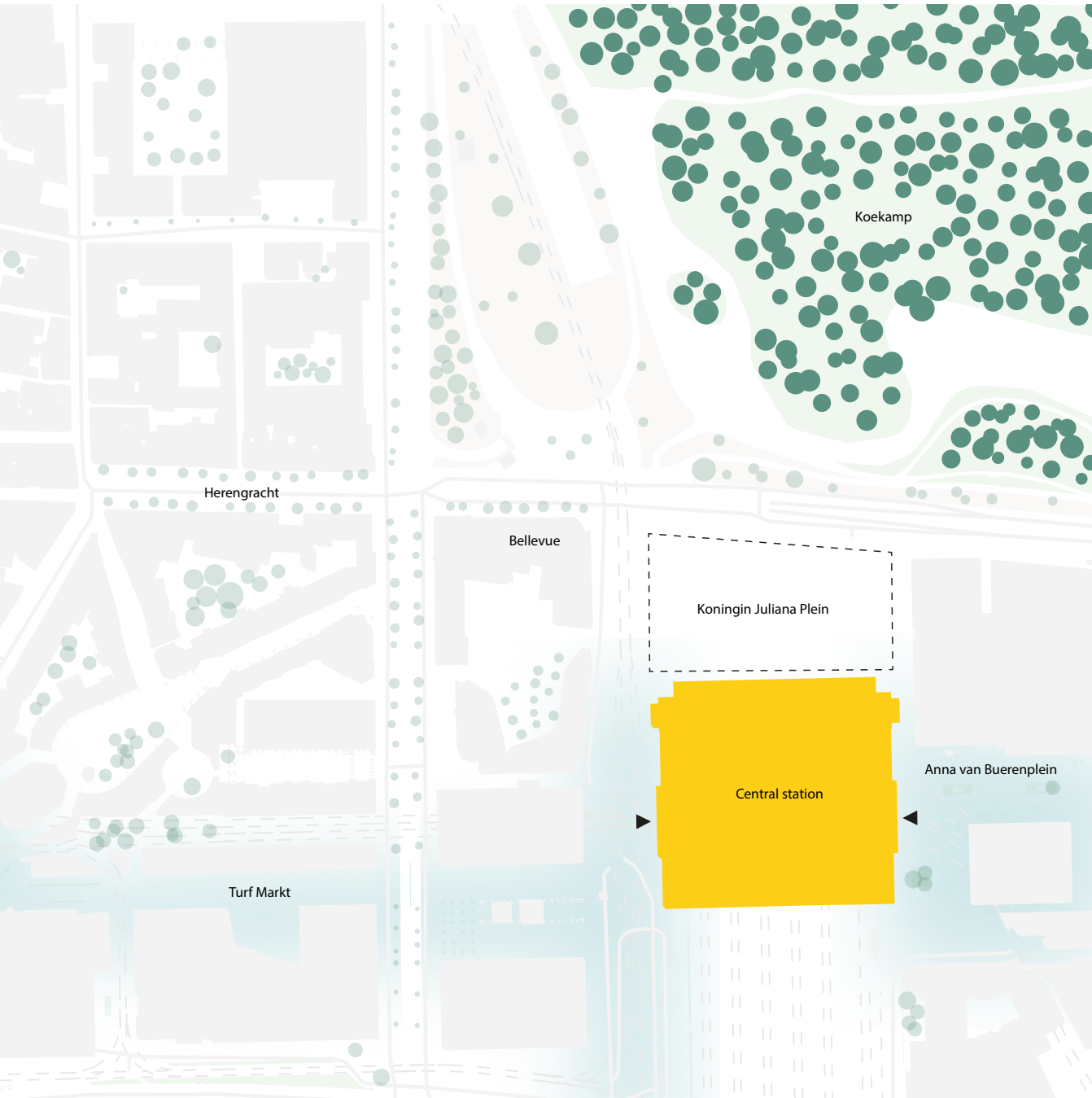
Inbetween zone



Koekamp

Site Analysis

Koningin Juliana Plein



1979



2016



2027

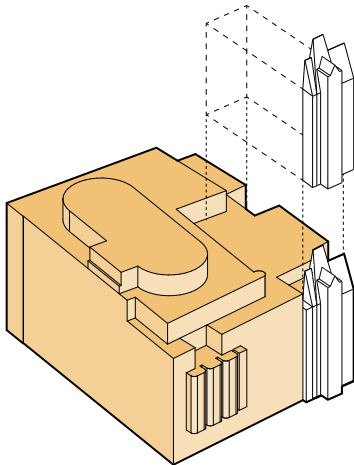
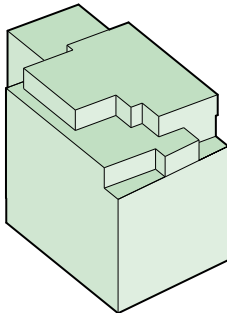
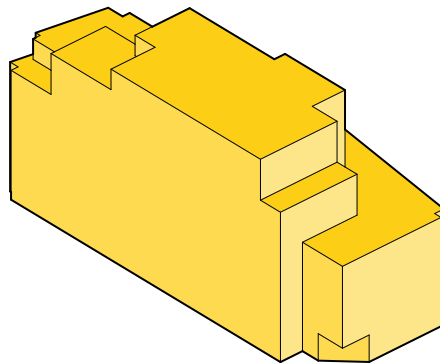
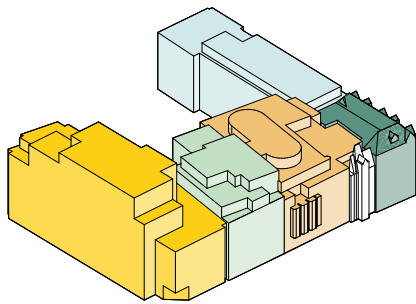
Site Analysis

Urban Interventions

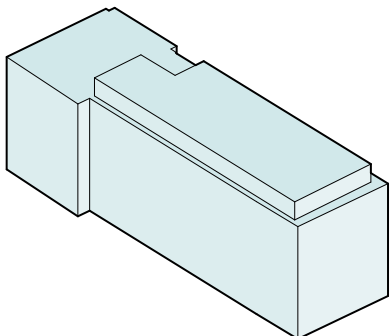
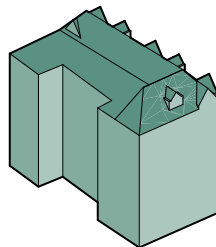


Existing Buildings

Inventarisation



Residence (1907)
Liefland, W.B. van
Municipal Monument



Basic Information

Building Name	Kantorenflat Bellevue 's Gravenhage	Den Hout	Nieuwe Hout	Kantoorgebouw Haagsche Assurantie Compagnie	Oranje Hout
Architect	Hornstra, Verschoor and Kayden Architects	Mehrtens & Van Veldhoven Architecten	Mehrtens & Van Veldhoven Architecten	Johan Muters (1858-1930)	Prent-Landman Architecten
Year of Construction	1975	1984	1974	1913	1981

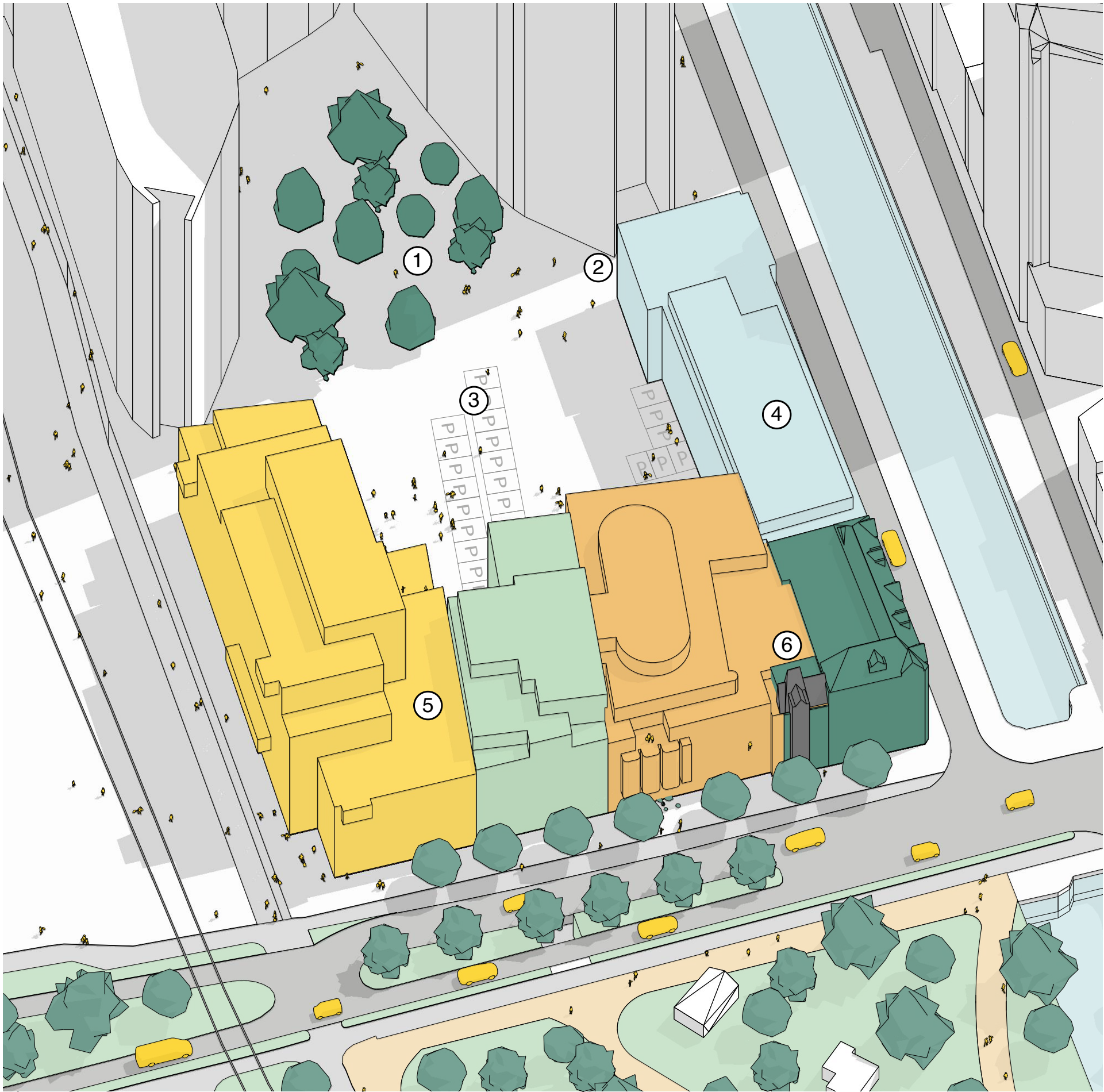
Functional Analysis

Current UseArchitect	Office	Office	Banking Building	Office	Office and Residential
Original Use	Office	Banking Building	Banking Building	Banking Building	Office and Residential



Site Characteristics

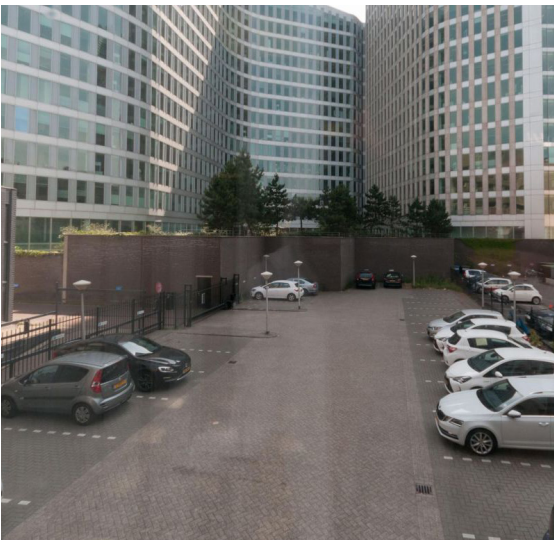
Opportunities & Challenges



1. No public green space



2. Inaccessible



3. Heat island



4. Lack of diverse program



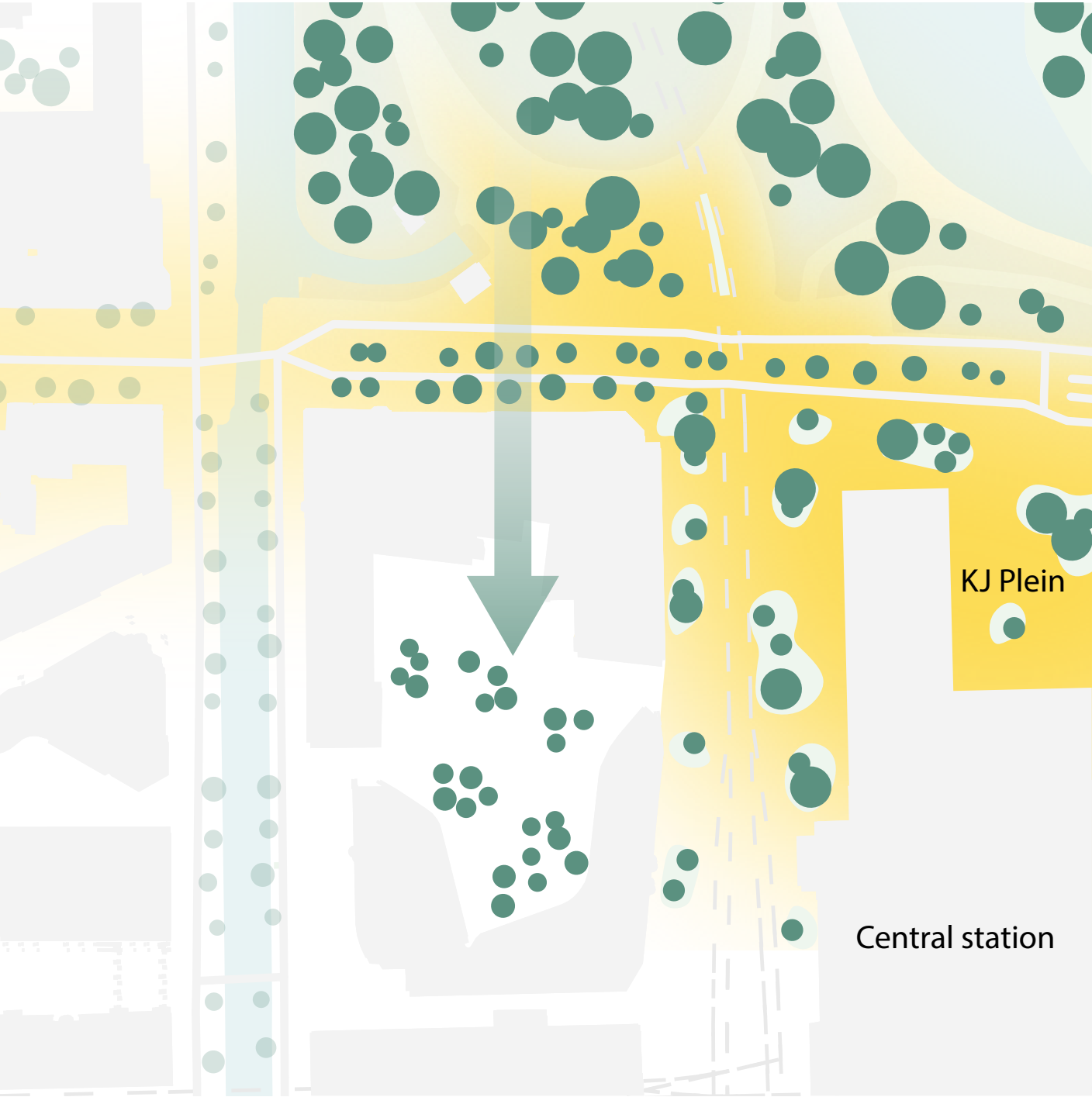
5. Outdated facades



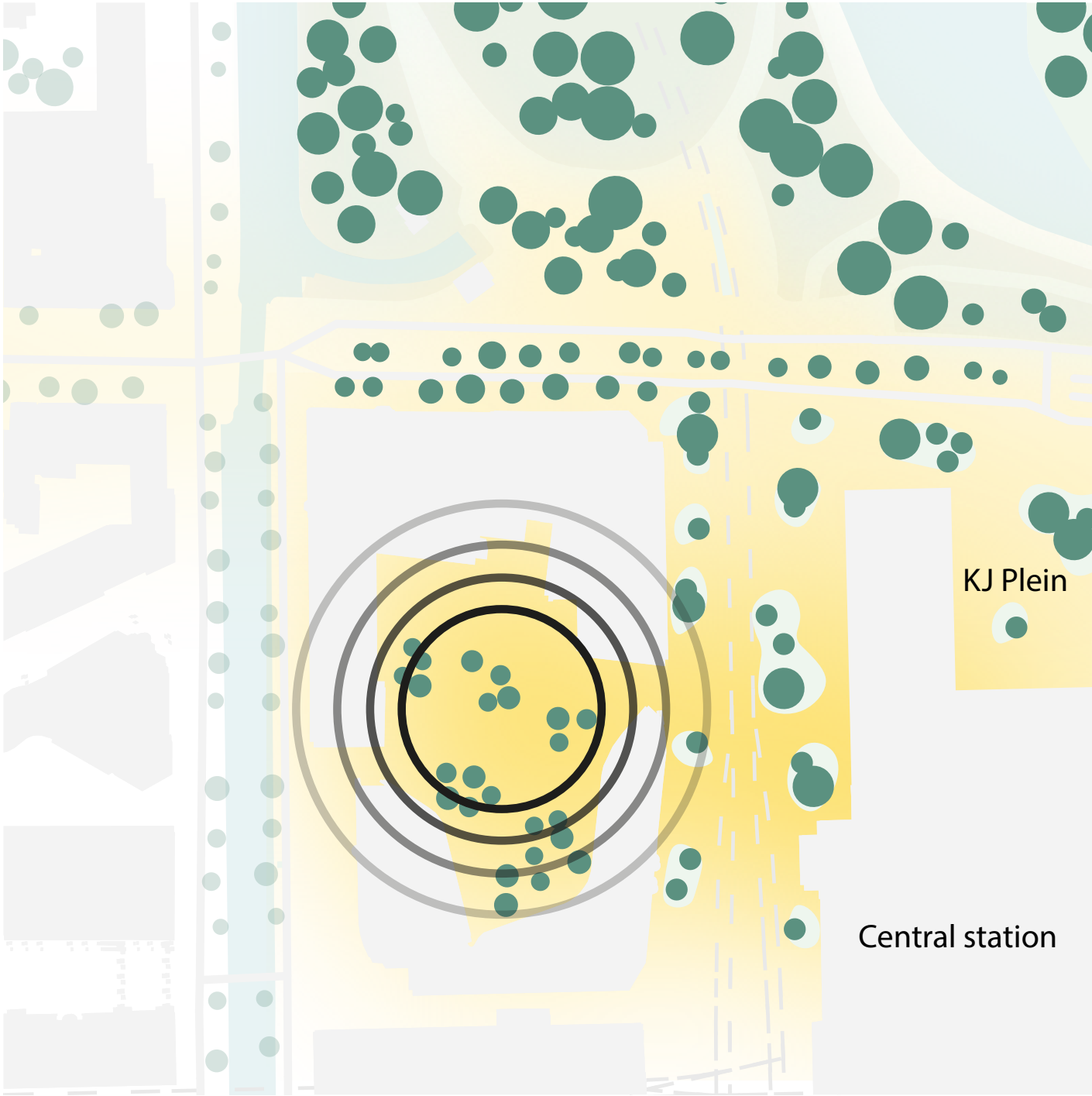
6. Monumental facade

Bellevue Site

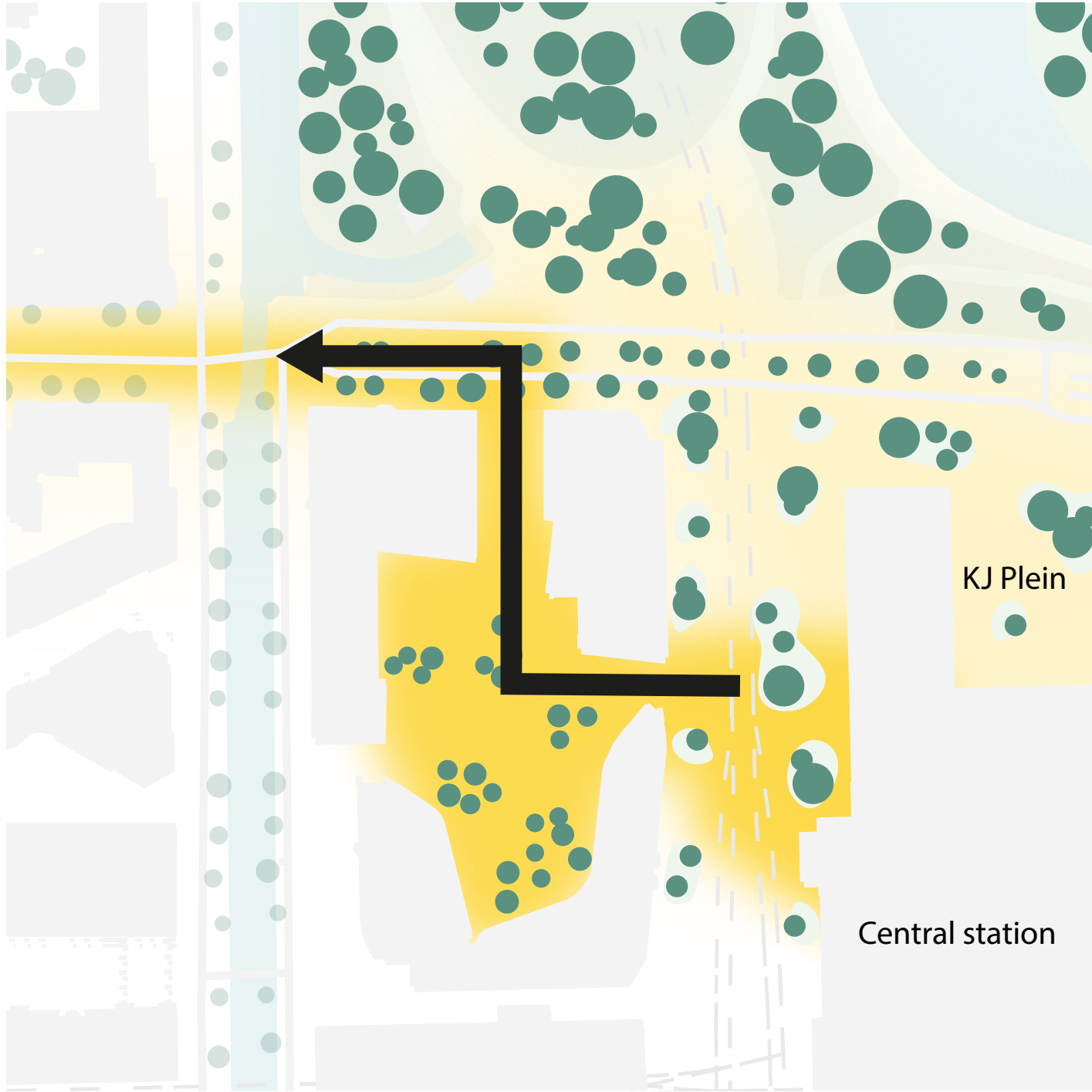
Analysis



Introducing Green



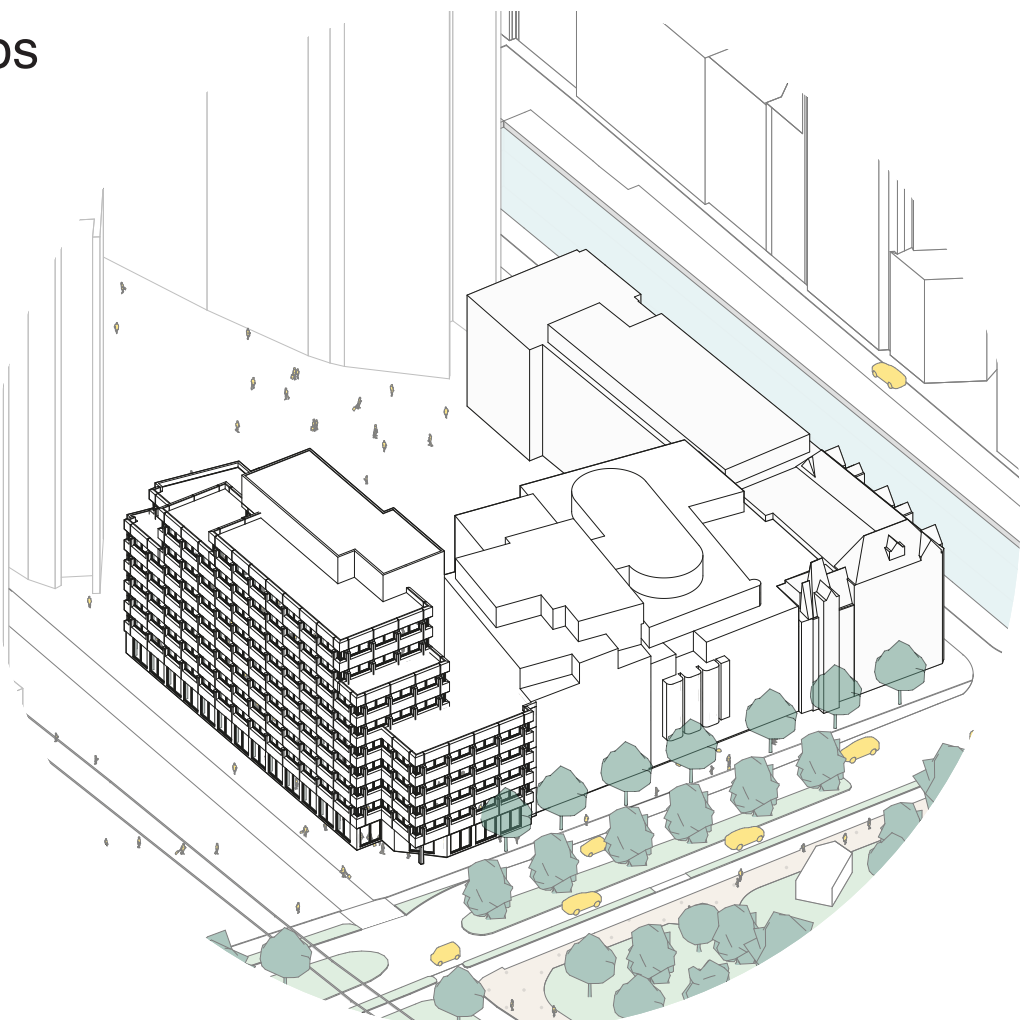
Public Value



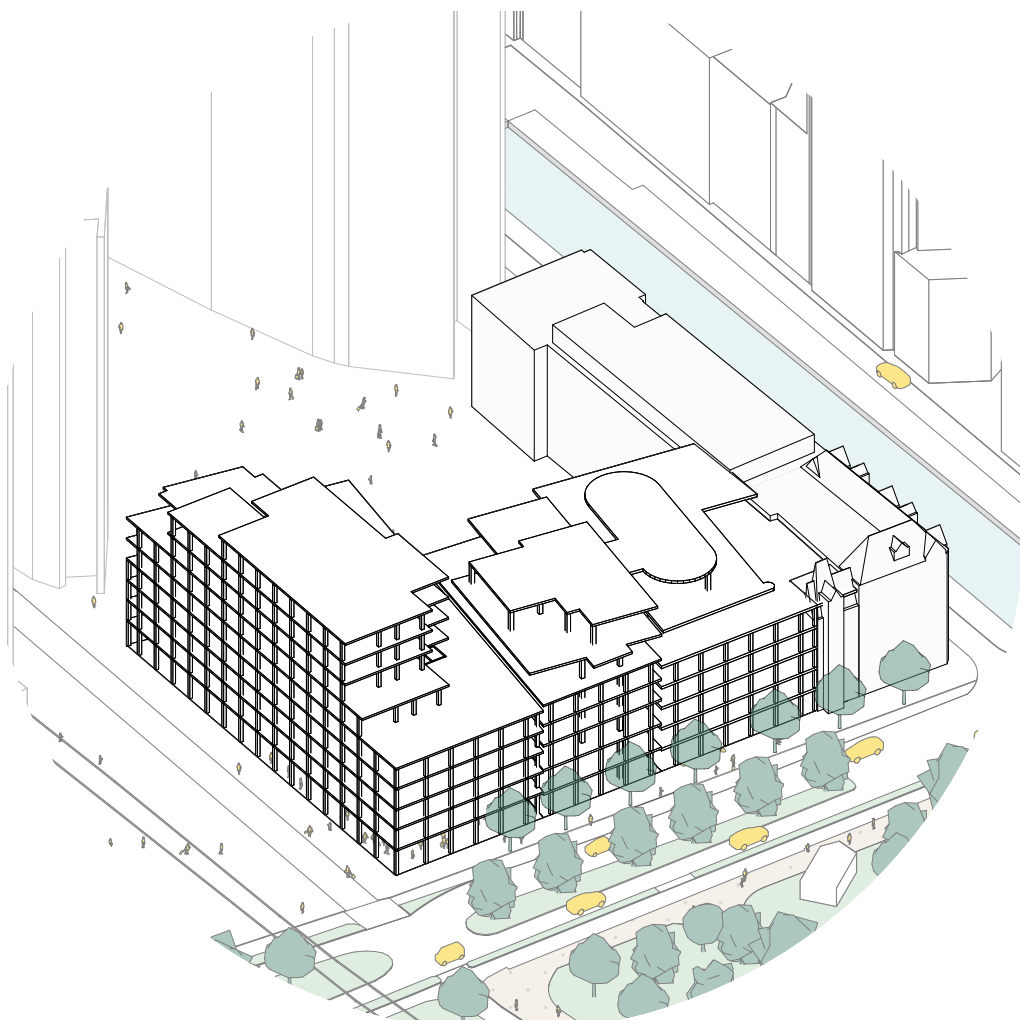
Plot Engagement

Revival Plan

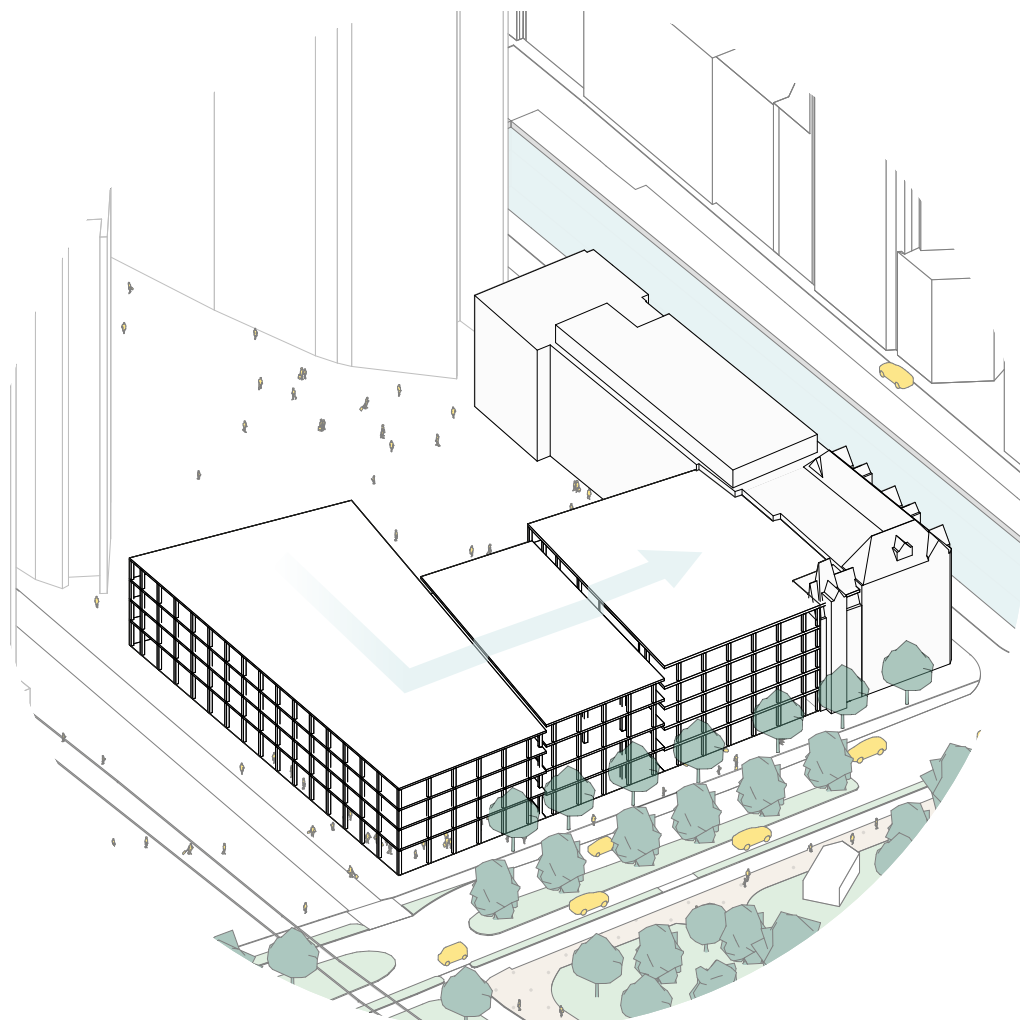
Renovation Steps



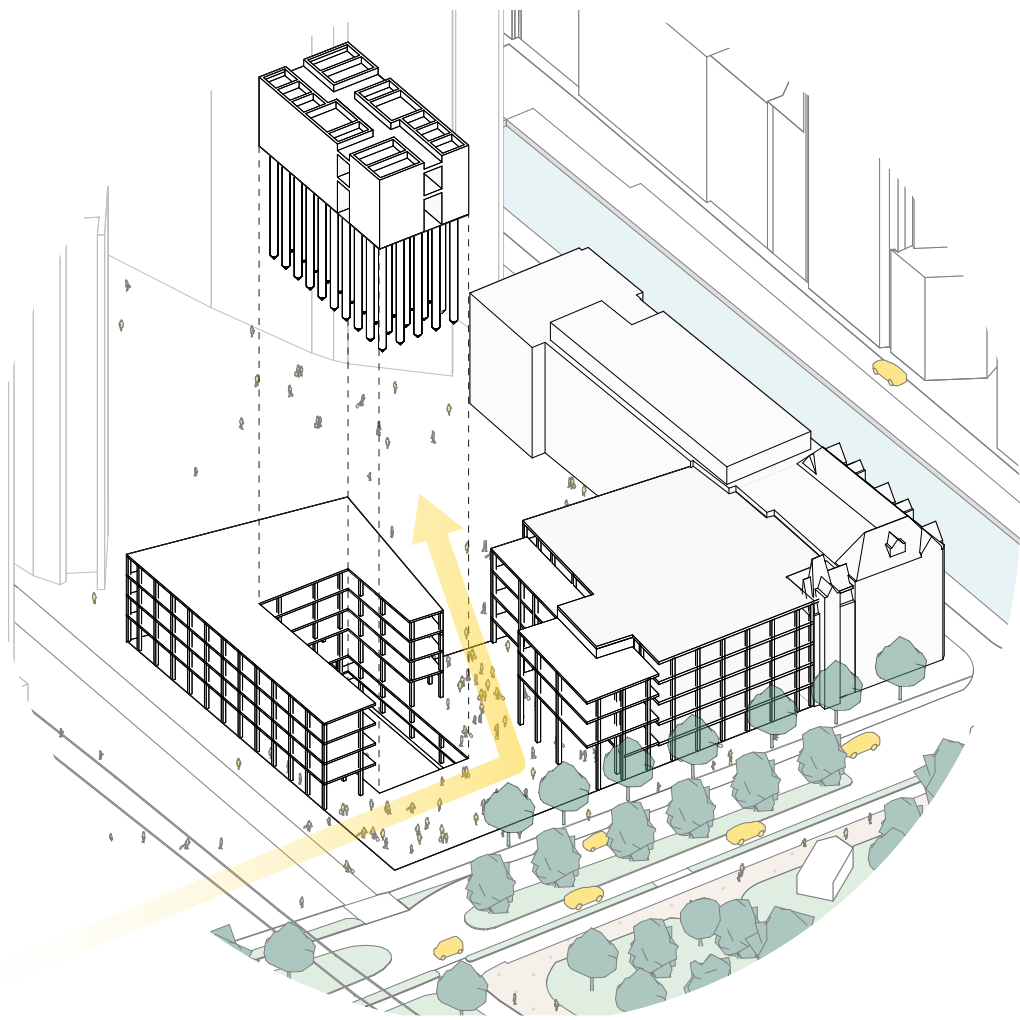
1. Current situation



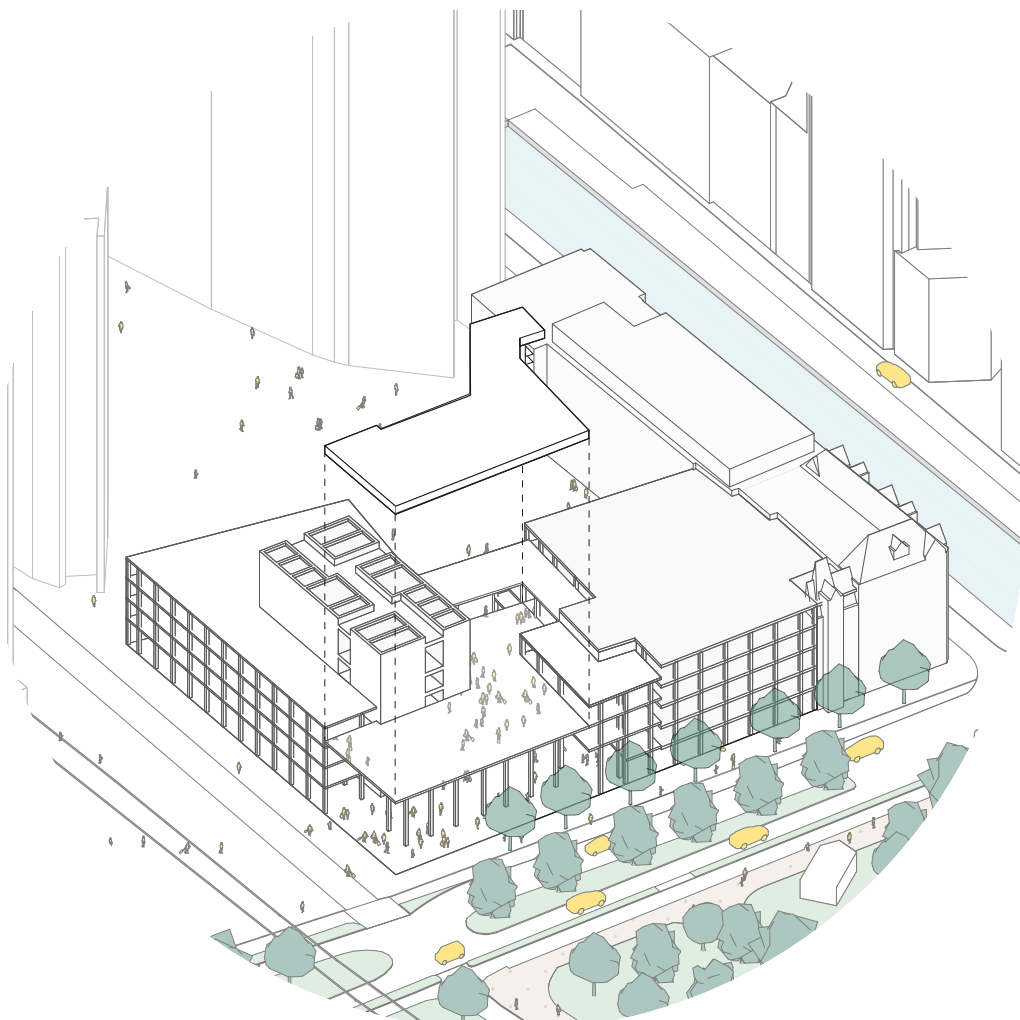
2. Strip facades



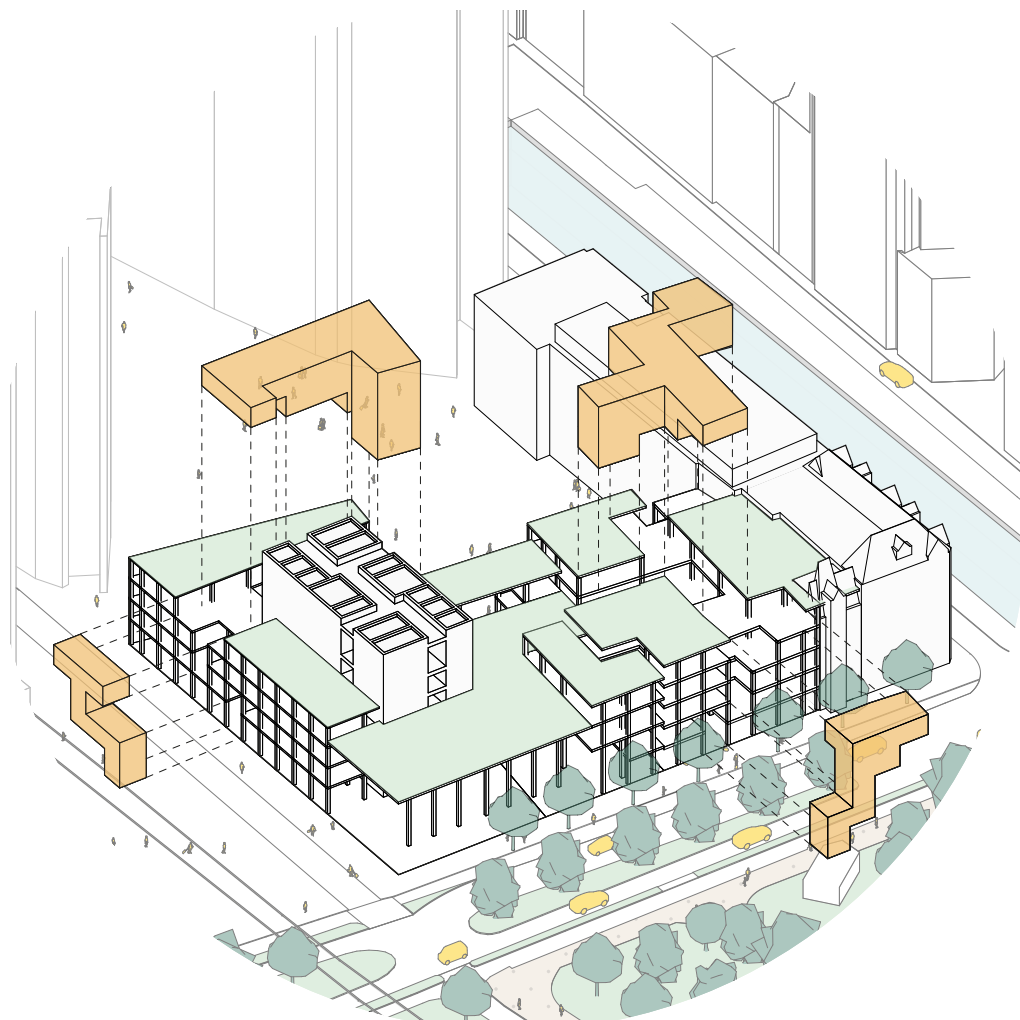
3. Partially demolish



4. Flows in and through the building



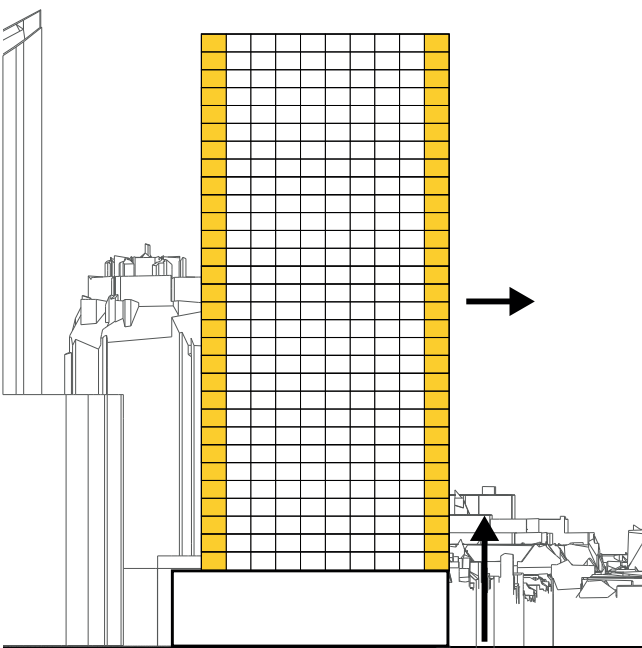
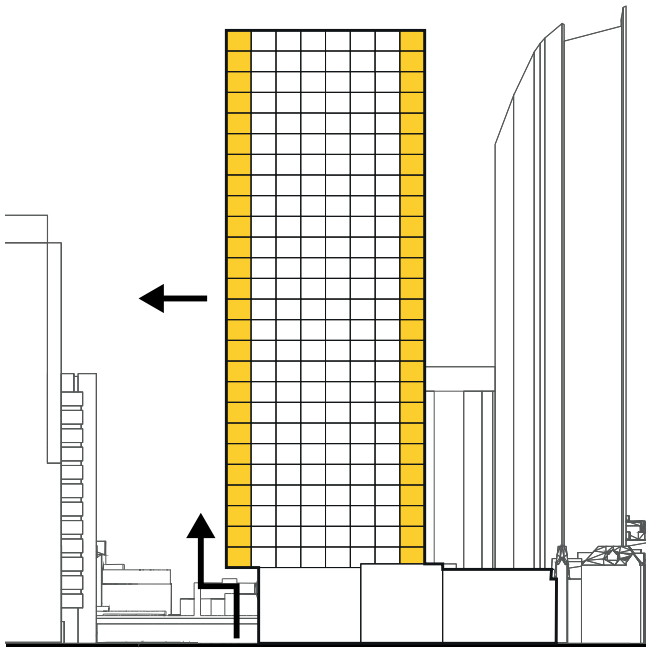
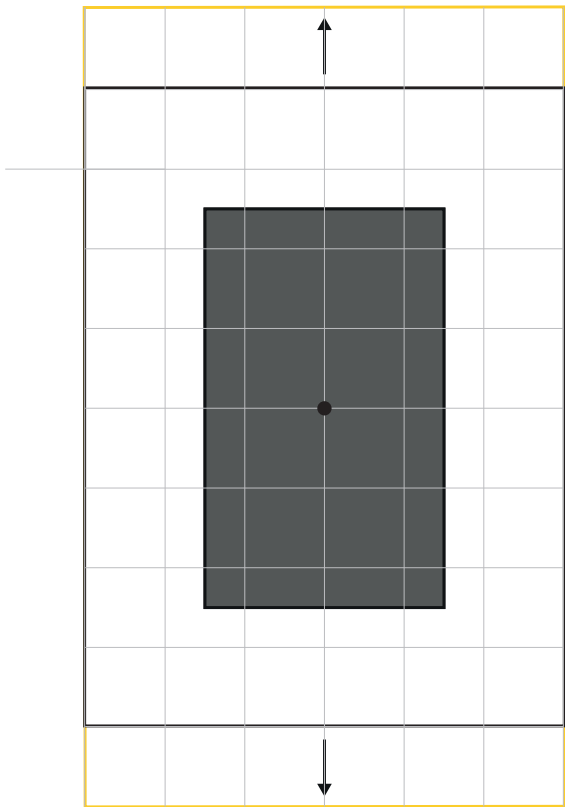
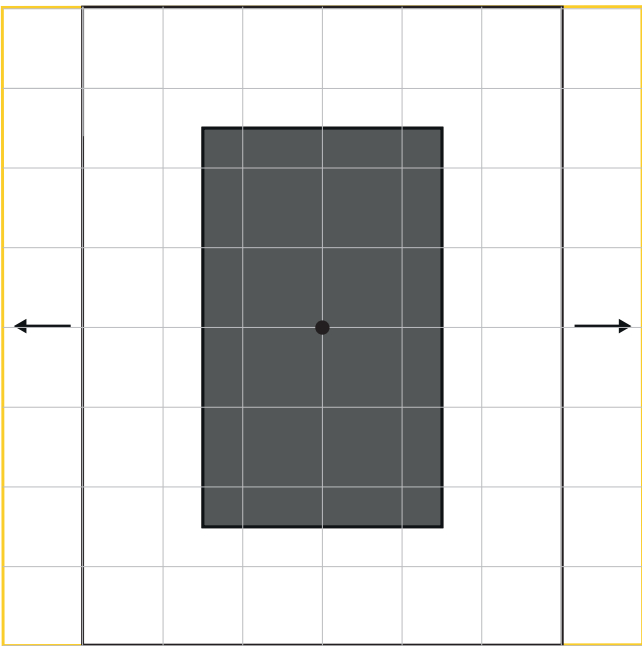
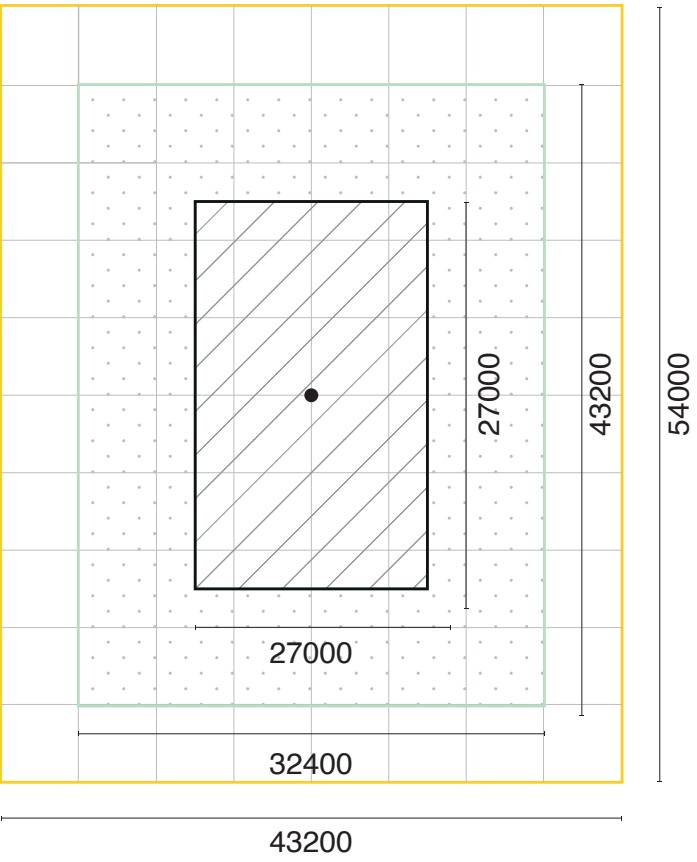
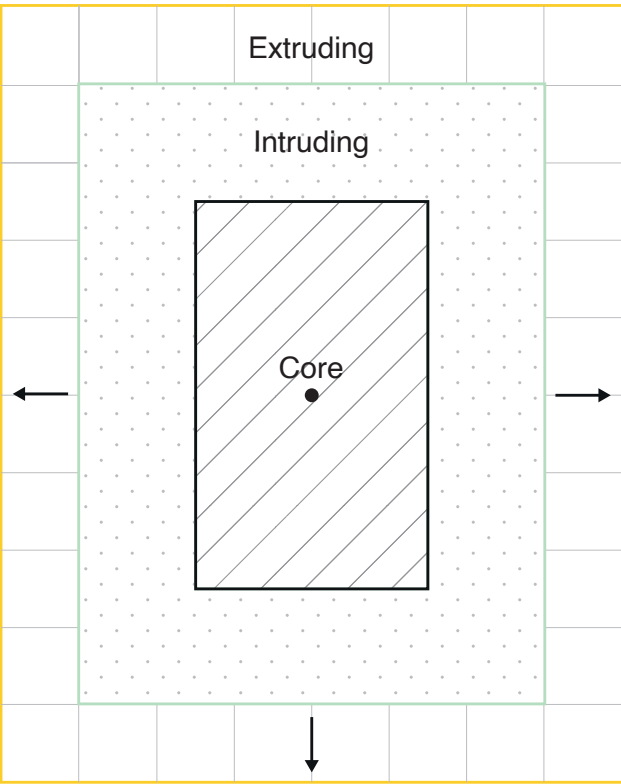
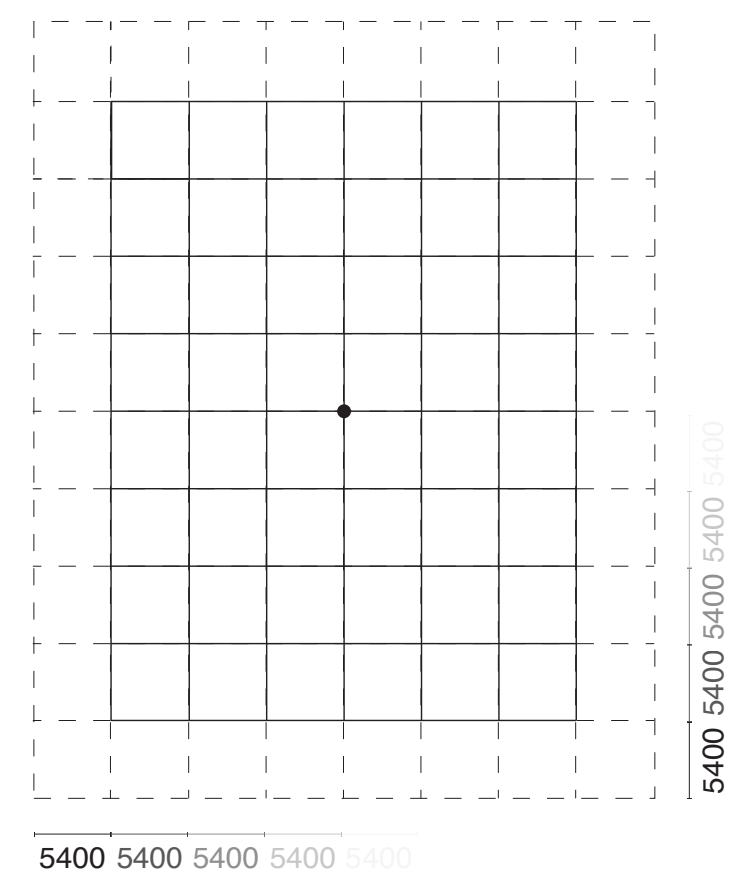
5. Covered street



6. Voids & Greenery

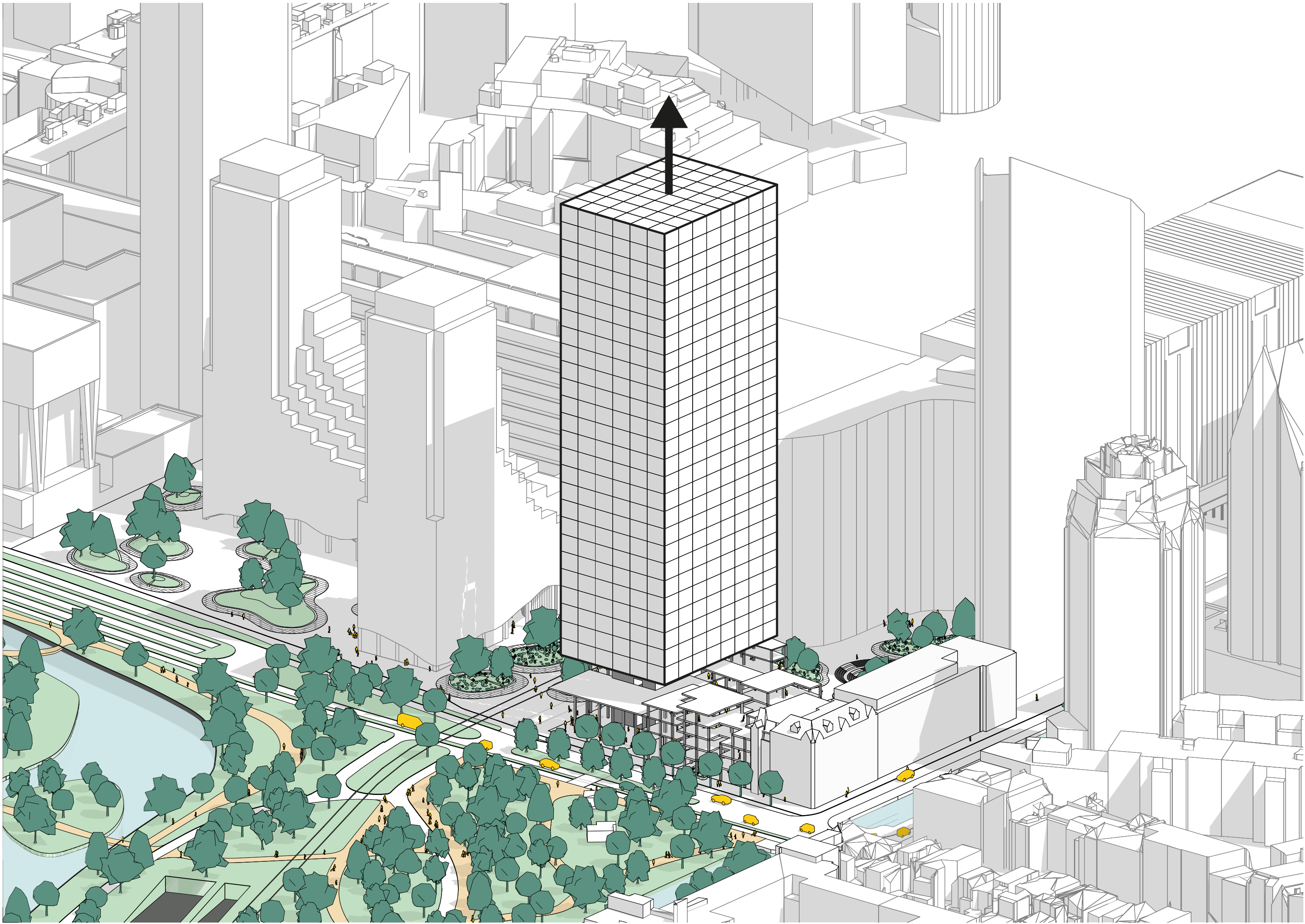
Extrusion of the Tower

Grid Framework



Massing

Extruding new volume



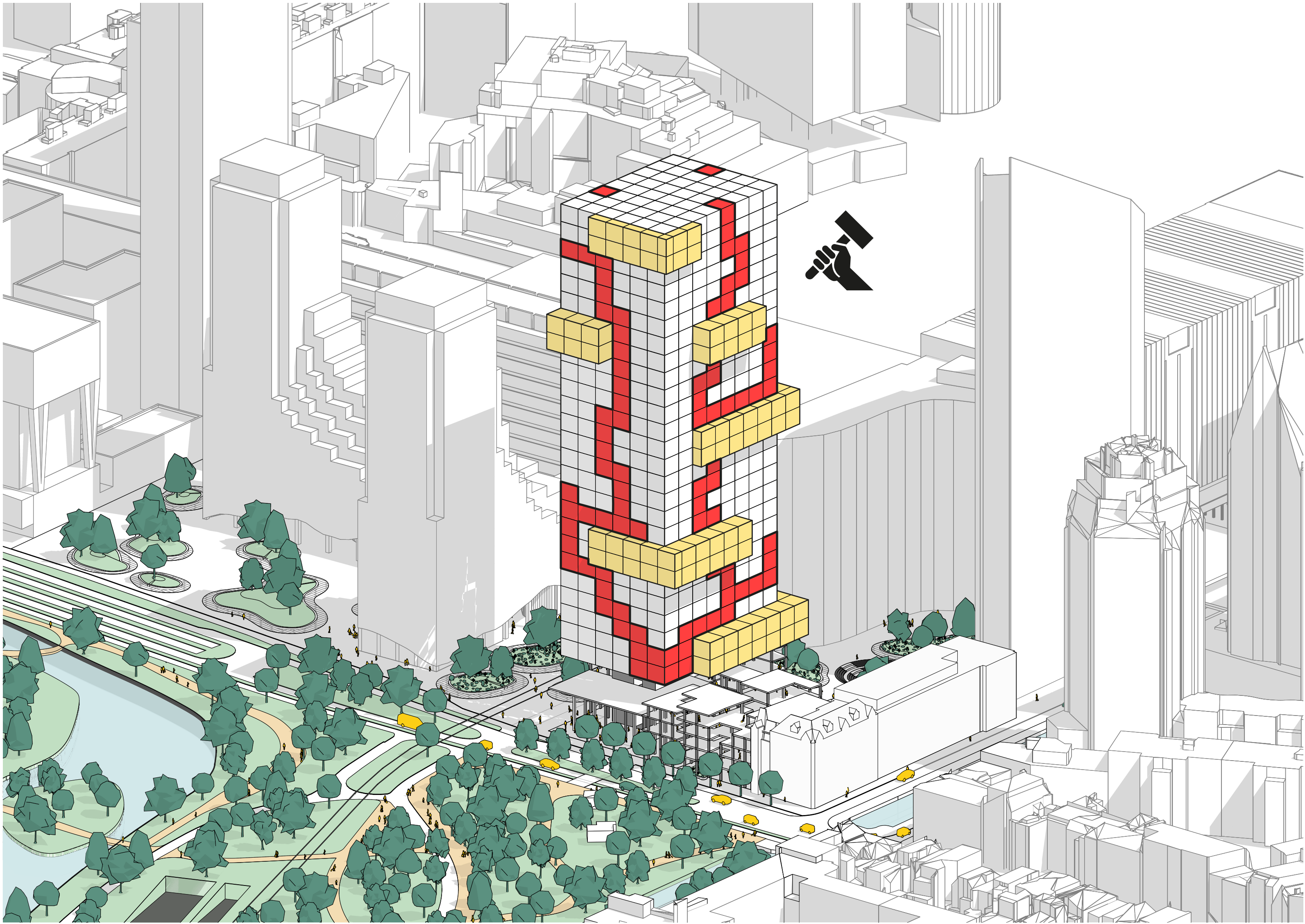
Massing

Extending



Massing

Carving out



Massing

Extend Park





Urban Context

Front Elevation



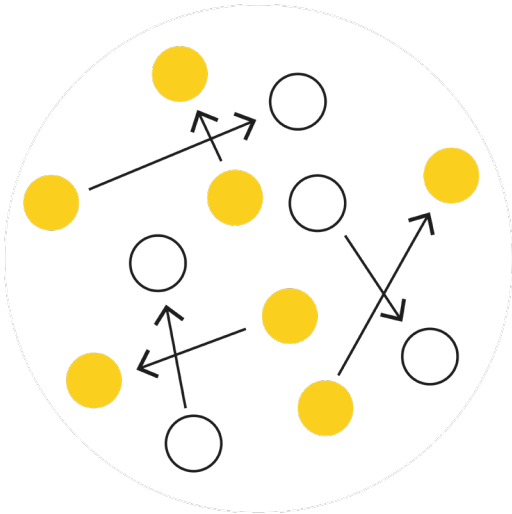
Urban Context

Left Elevation

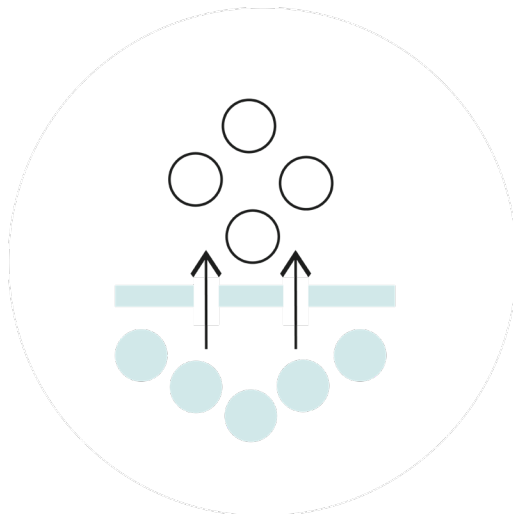


Strategies

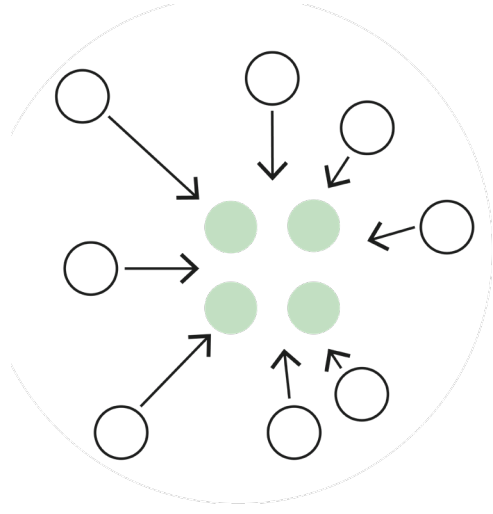
Summary



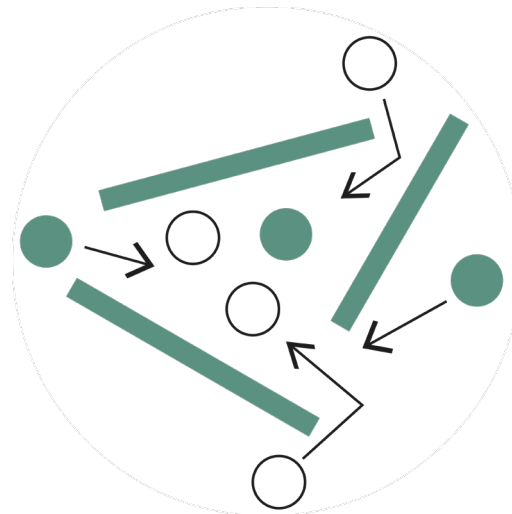
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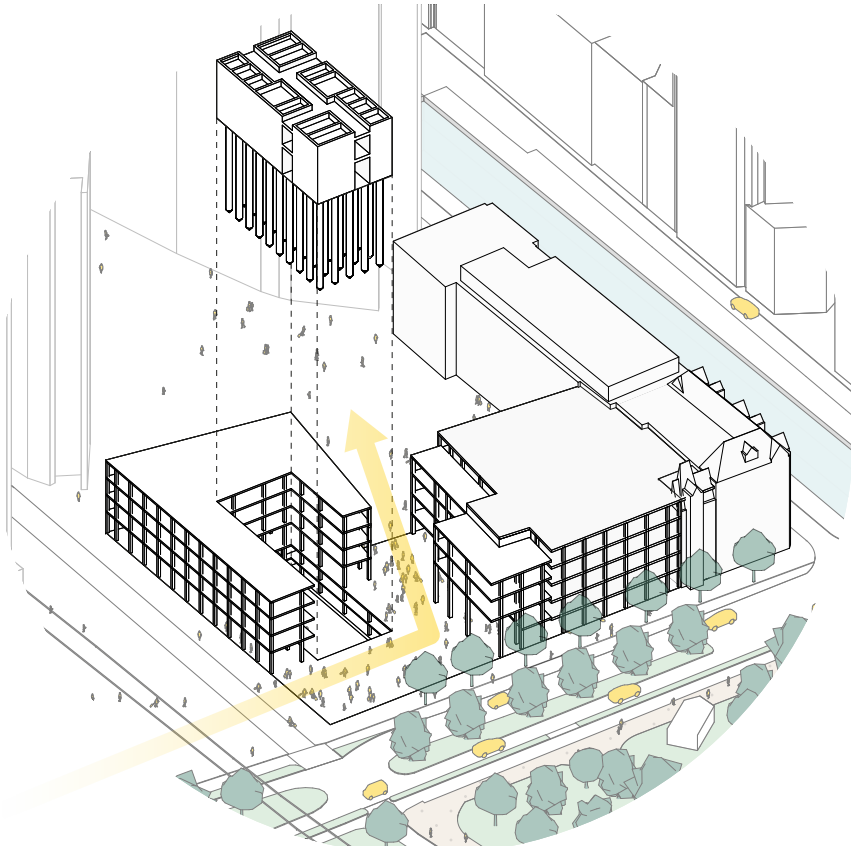
Transparent



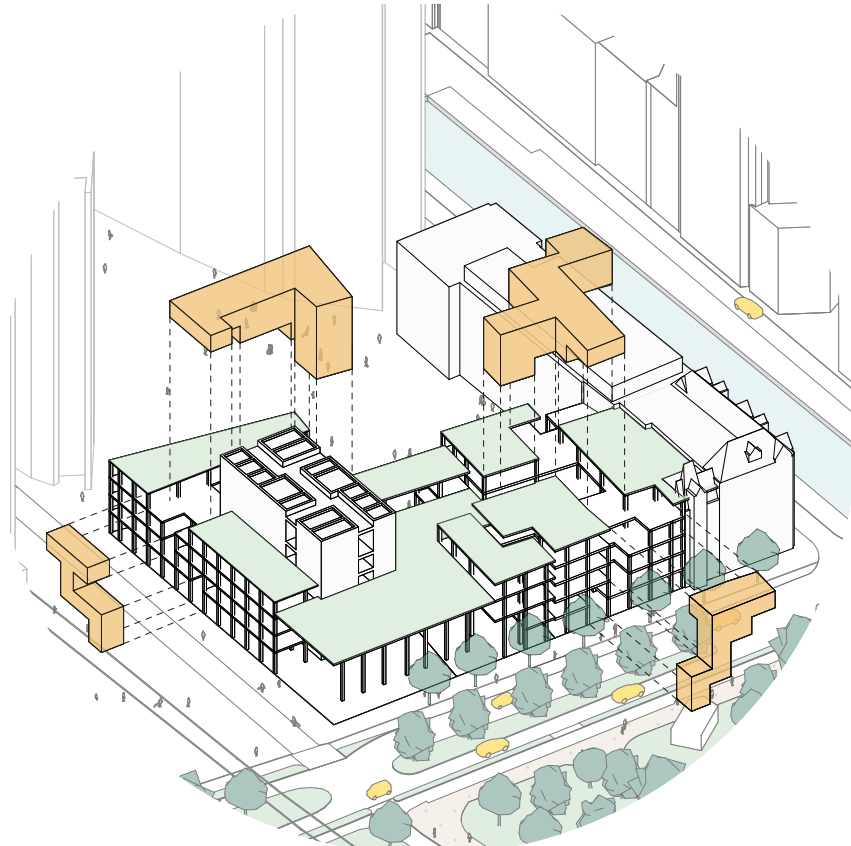
Inviting



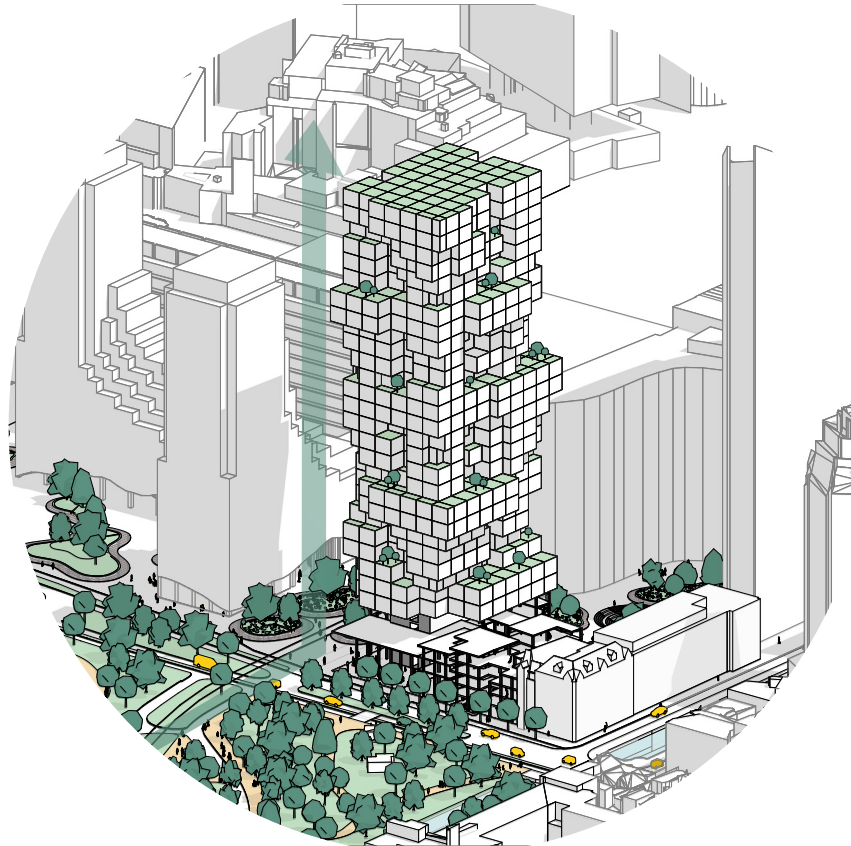
Interactive



Voids



Porosity

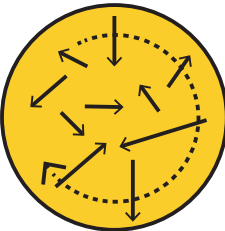
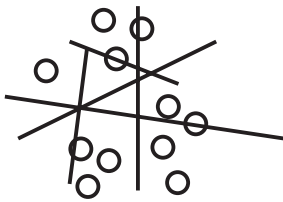
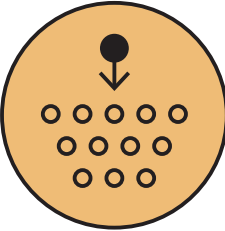
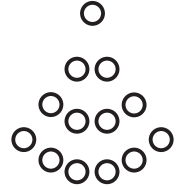
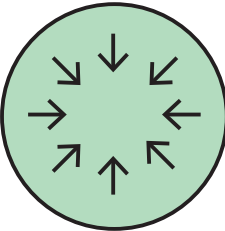
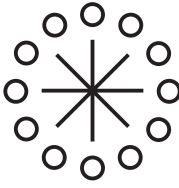
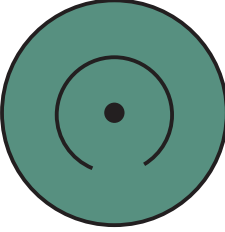
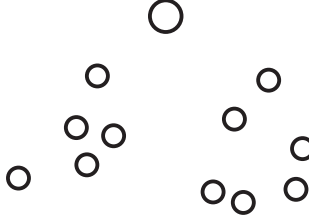
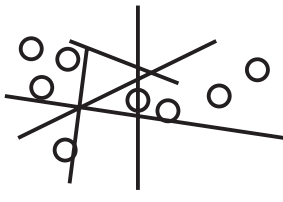


Greenery



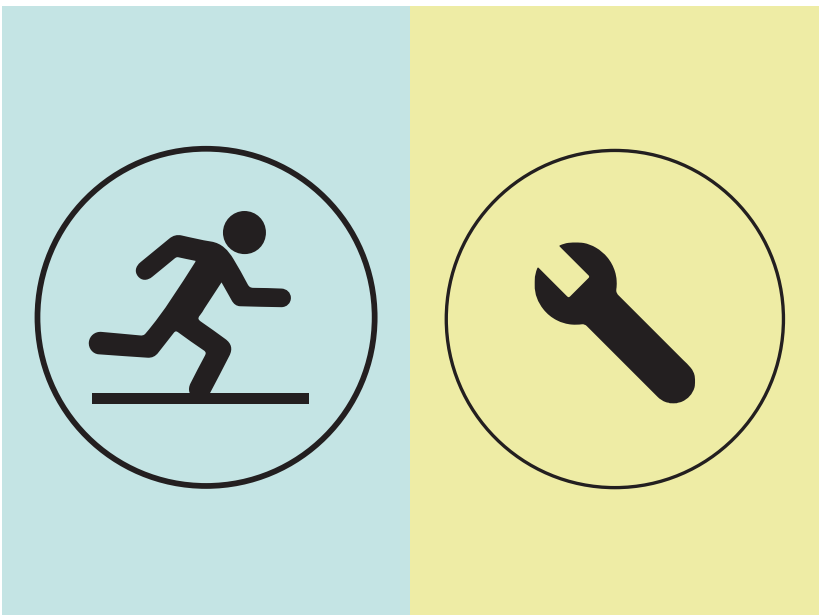
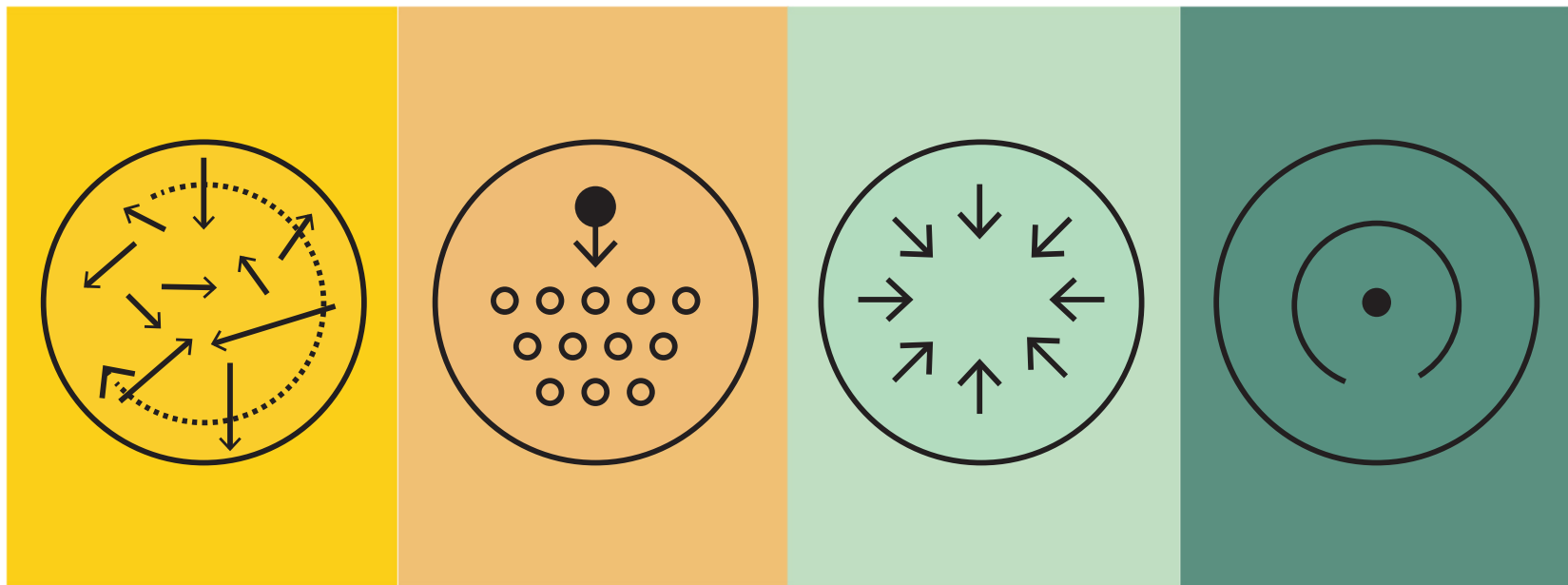
Learning Types

Learning as a Catalyst

Type	Signature	Description	Principle	Orientation	Spaces
Waterhole		The waterhole learning setting supports informal knowledge sharing by allowing free flow and encouraging spontaneous meetings between students.	Invitation	 Multifunctional Spread out	Atelier workspaces Café / Cantine Library Lounges Courtyards
Mountain Top		Mountain Top learning settings support single-way communication from one to many. Whether it is a presentation or a stage performance.	Direction of attention	 Singular Gathered	Theater Lecture hall Podium Stage Auditoriums
Campfire		Campfire learning setting creates smaller pockets for group work and group dialogue. Marked with a boundary the campfire setting supports the feeling of coherence and collaboration.	Marked territory	 Multifunctional Gathered	Classroom Conference room Lab spaces Seminar rooms Maker spaces
The Cove		The Cove learning setting affords focus, deepening and concentration. It provides a place for either visual or physical privacy.	Concentration	 Singular Spread out	Private office Study pods Isolation booths Recording studios Workstations
Movement		Everyone needs to move several times a day. Movement moves knowledge from the brain and into the body.	Physical activation	 Multifunctional Spread out	Elevator Stair Corridors Trails Ramps
Hands On		Hands on draws parallels to 'makerspaces', using prototyping to gain a deeper understanding of how theory works in practice.	Experimenting	 Focused Props / Objects	Artisan spaces Engineering spaces FAB-Lab CAM-Lab Makerspaces

Learning Types

Characteristics

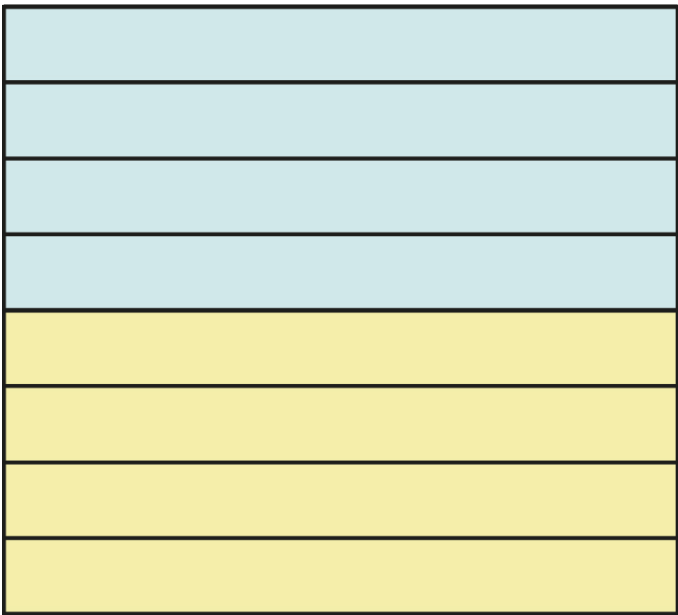


Supporting tools

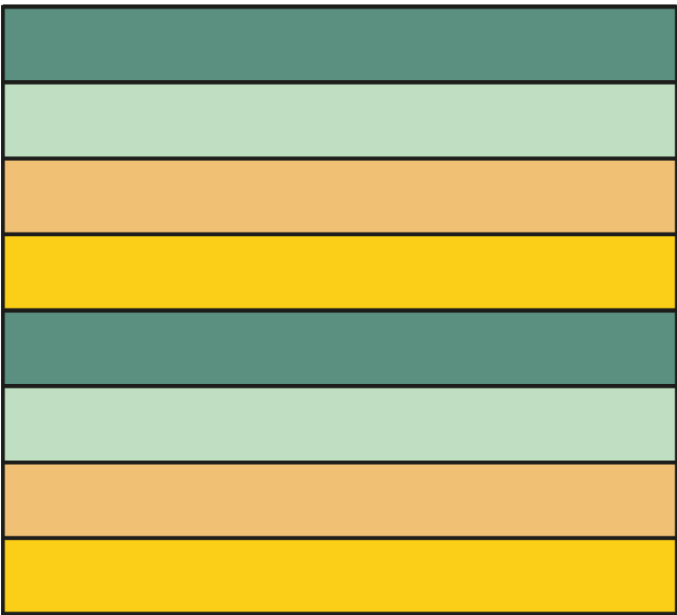
Learning Types

Vertical Connections

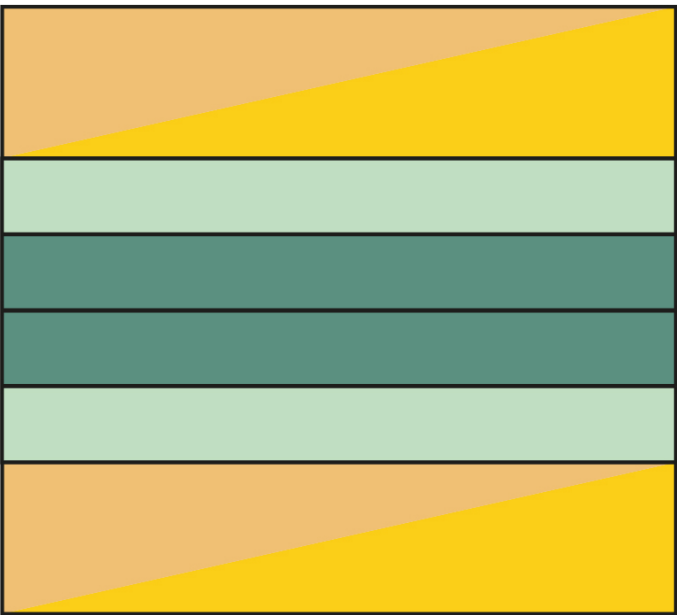
- Waterhole
- Mountain Top
- Campfire
- The Cove



Hubs



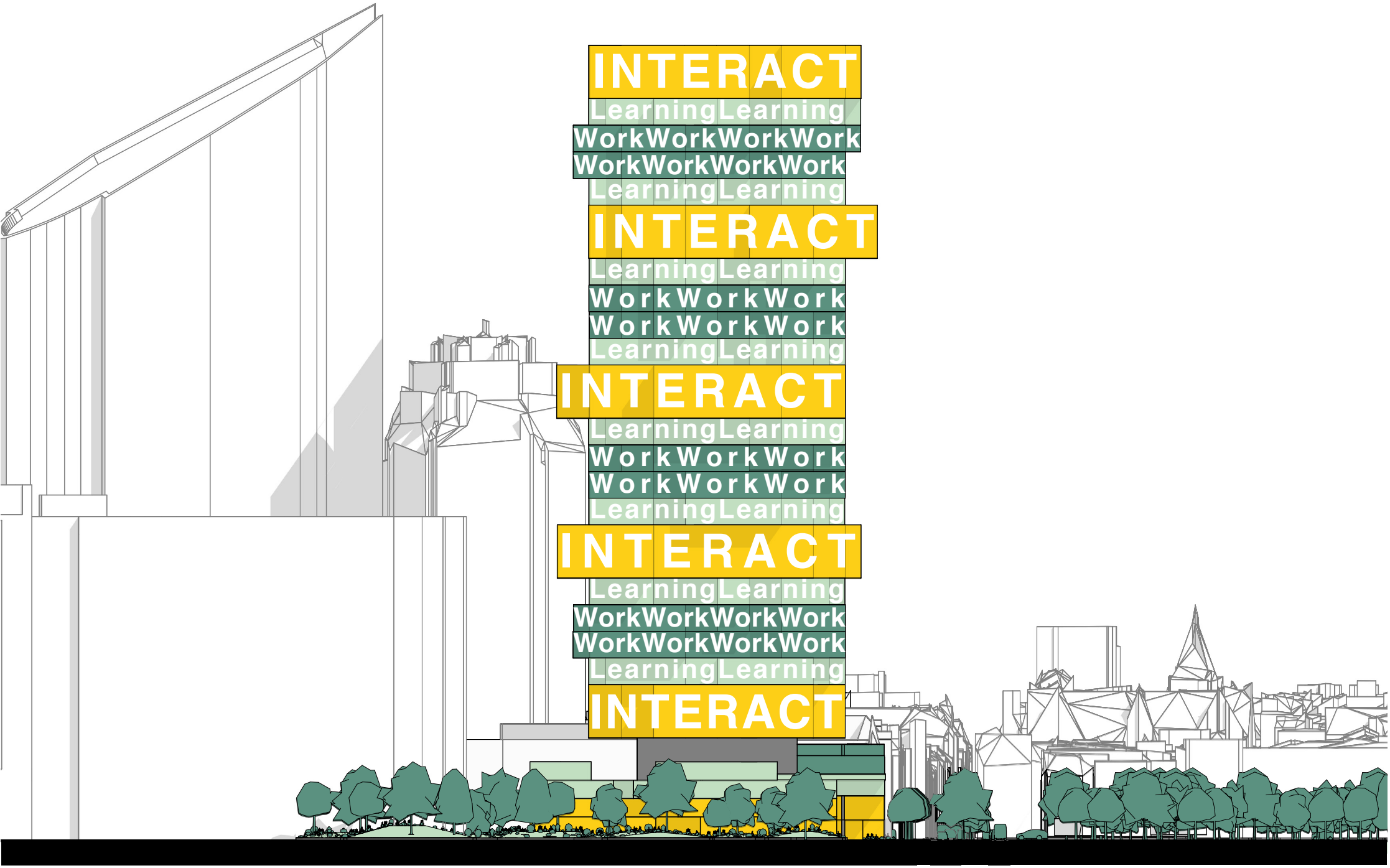
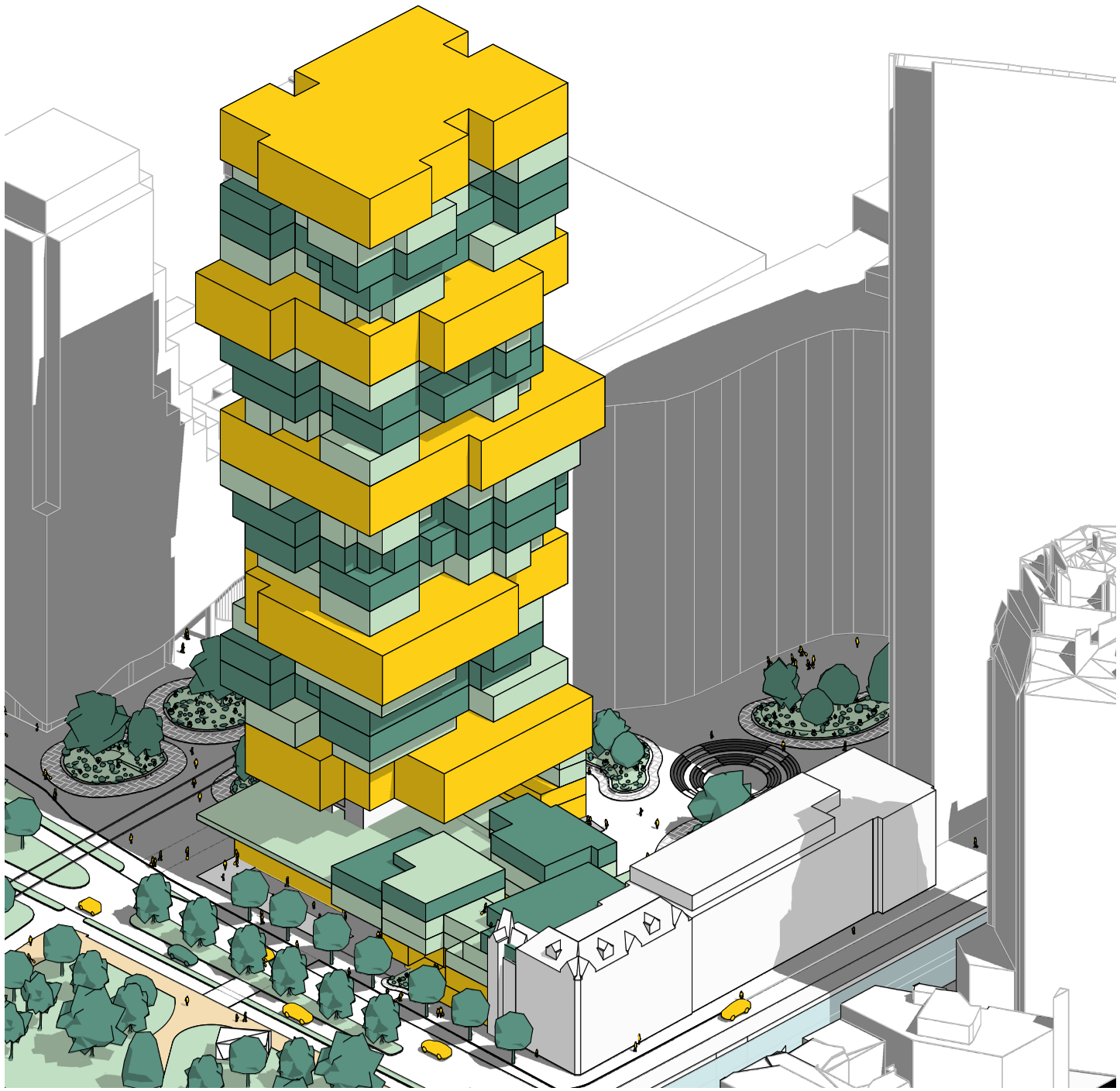
Connections



Optimization

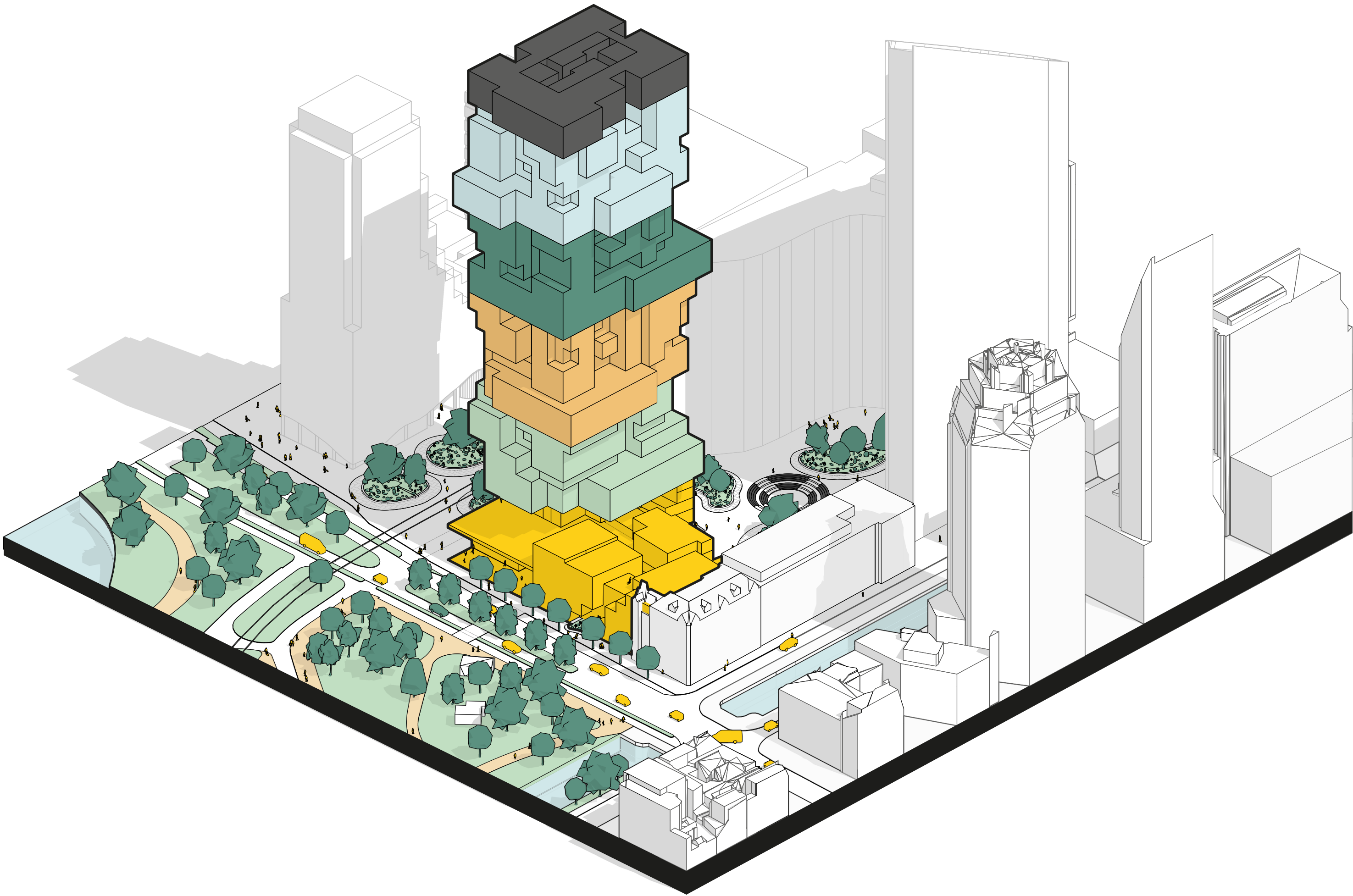
Program

Spacial Concept



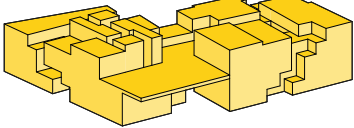
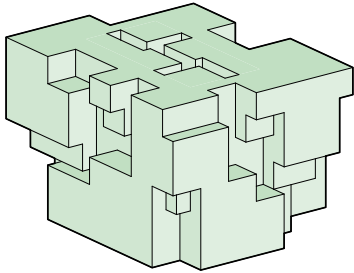
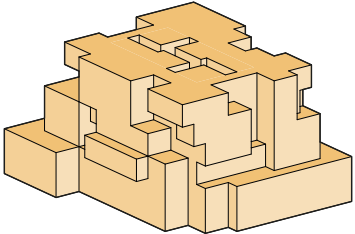
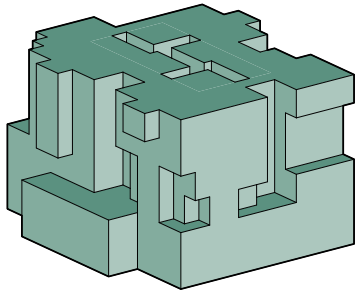
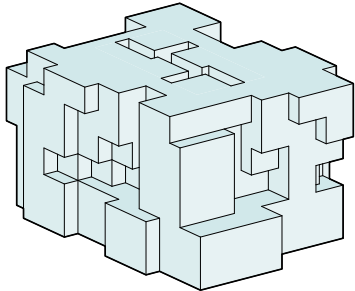
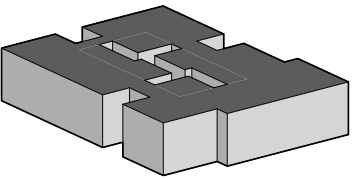
Program Translation

Hubs



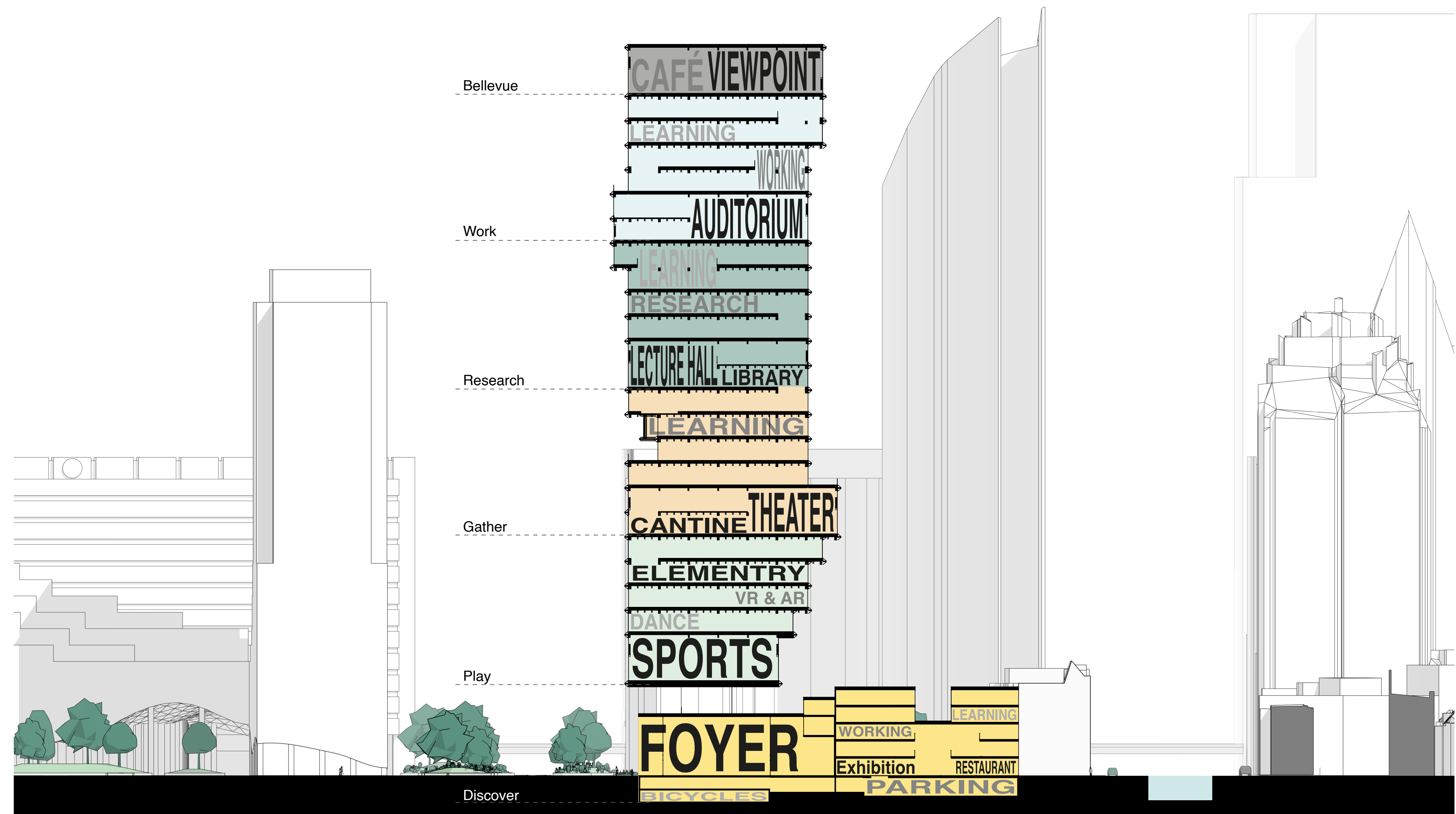
Hubs

Characteristics

	Discover	Play	Gather	Research	Work	Bellevue
Hub						
Character	Inviting Open Intrigue Transparent	Dynamic Energetic Playful Engaging	Social Collaborative Welcoming Flexible	Innovative Focused Knowledge-driven Analytical	Productive Efficient Structured Professional	Scenic Elegant Relaxing Elevated
Spacial dynamics	 Wandering  Gather  Meet  Spacious	 Spacious  Active  Dynamic  Play	 Gather  Wandering  Spacious  Relax	 Enclosed  Meet  Innovate  Inspire	 Flexible  Professional  Enclosed  Structured	 Meet  Relax  Gather  View

Program

Section



Programmatic Layout

Perspective Section



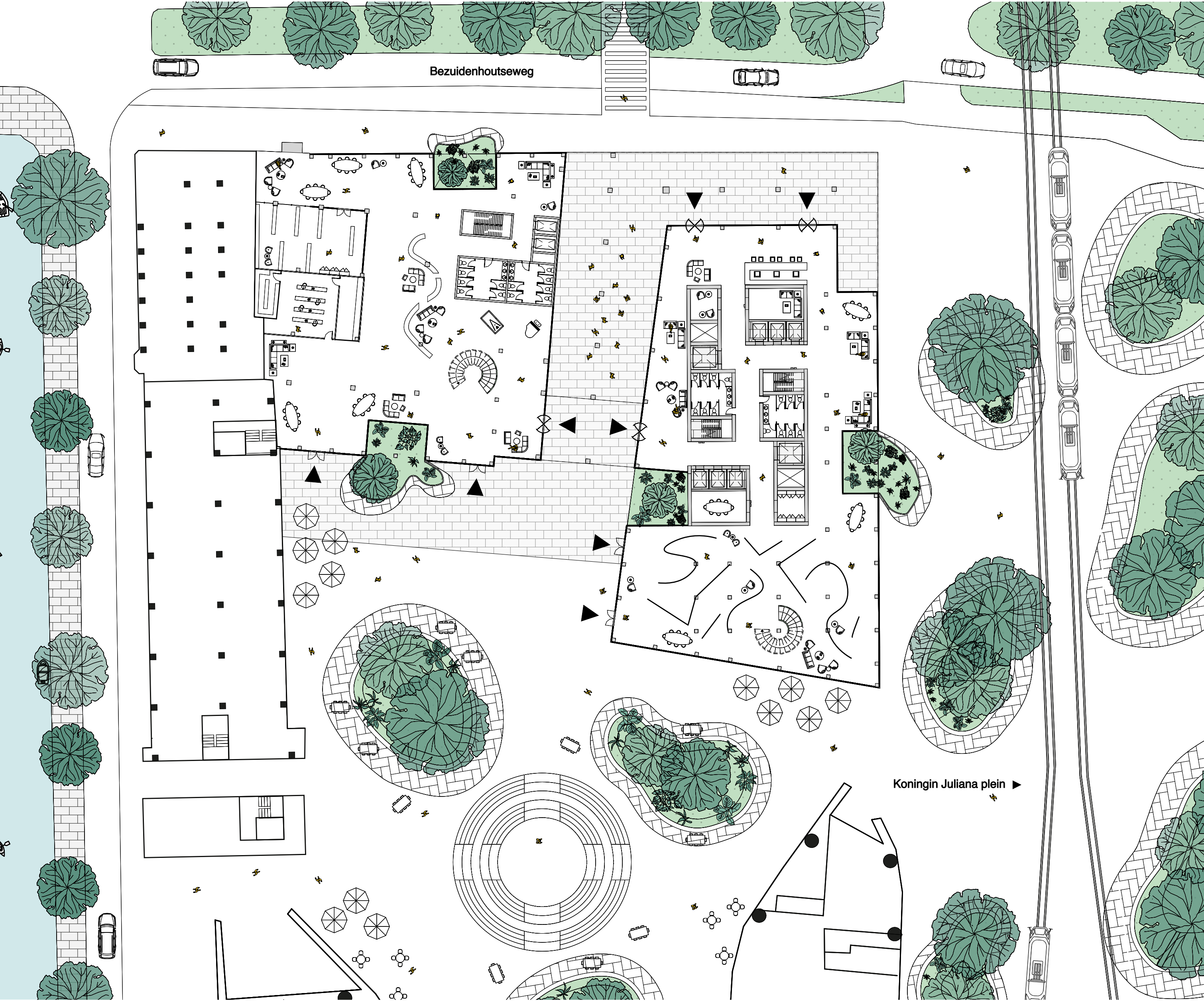
Discover

Front Entrance



Floorplan

00 Ground Floor



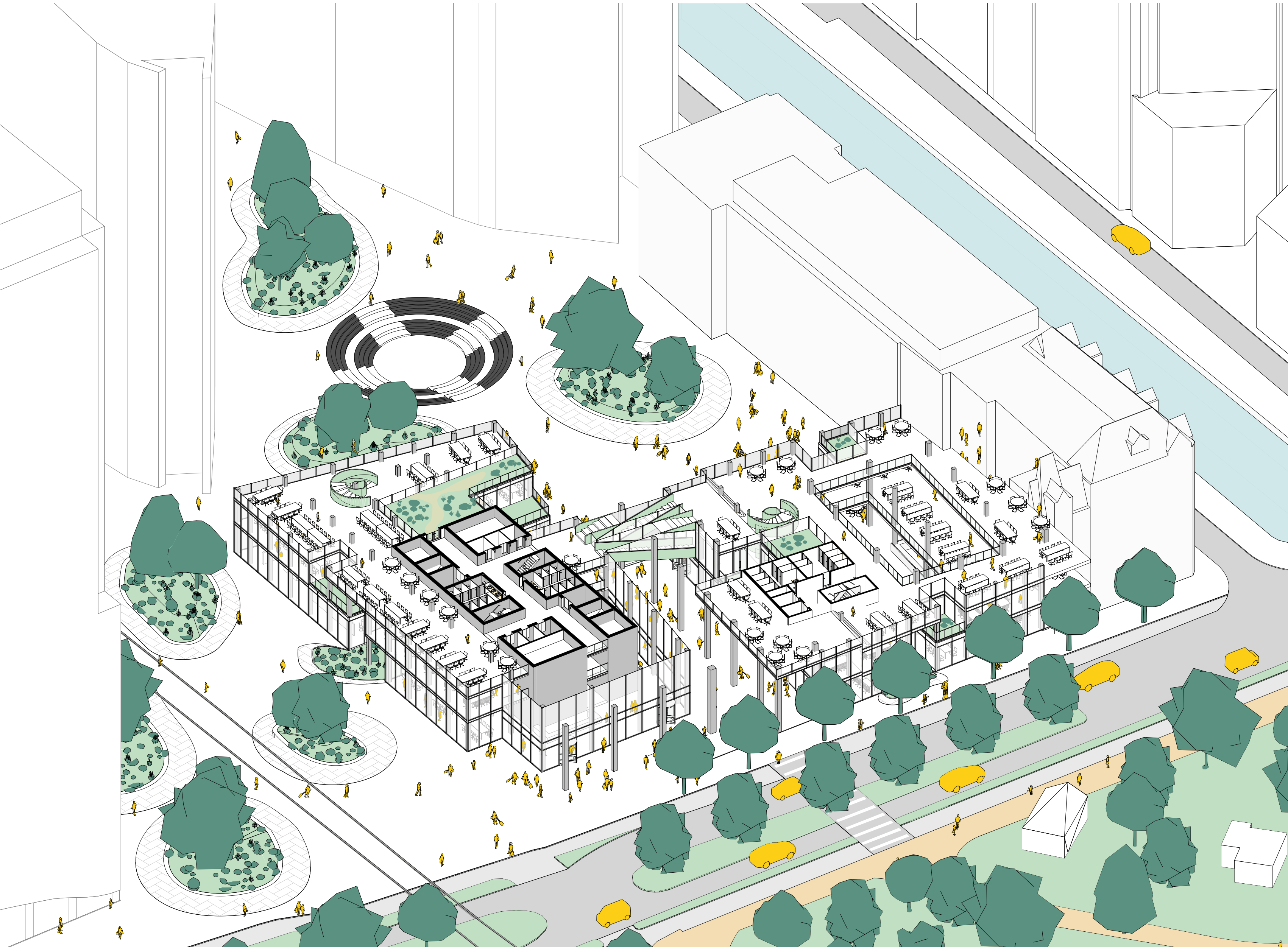
Discover

Park Entrance



Discover

03 Third Floor



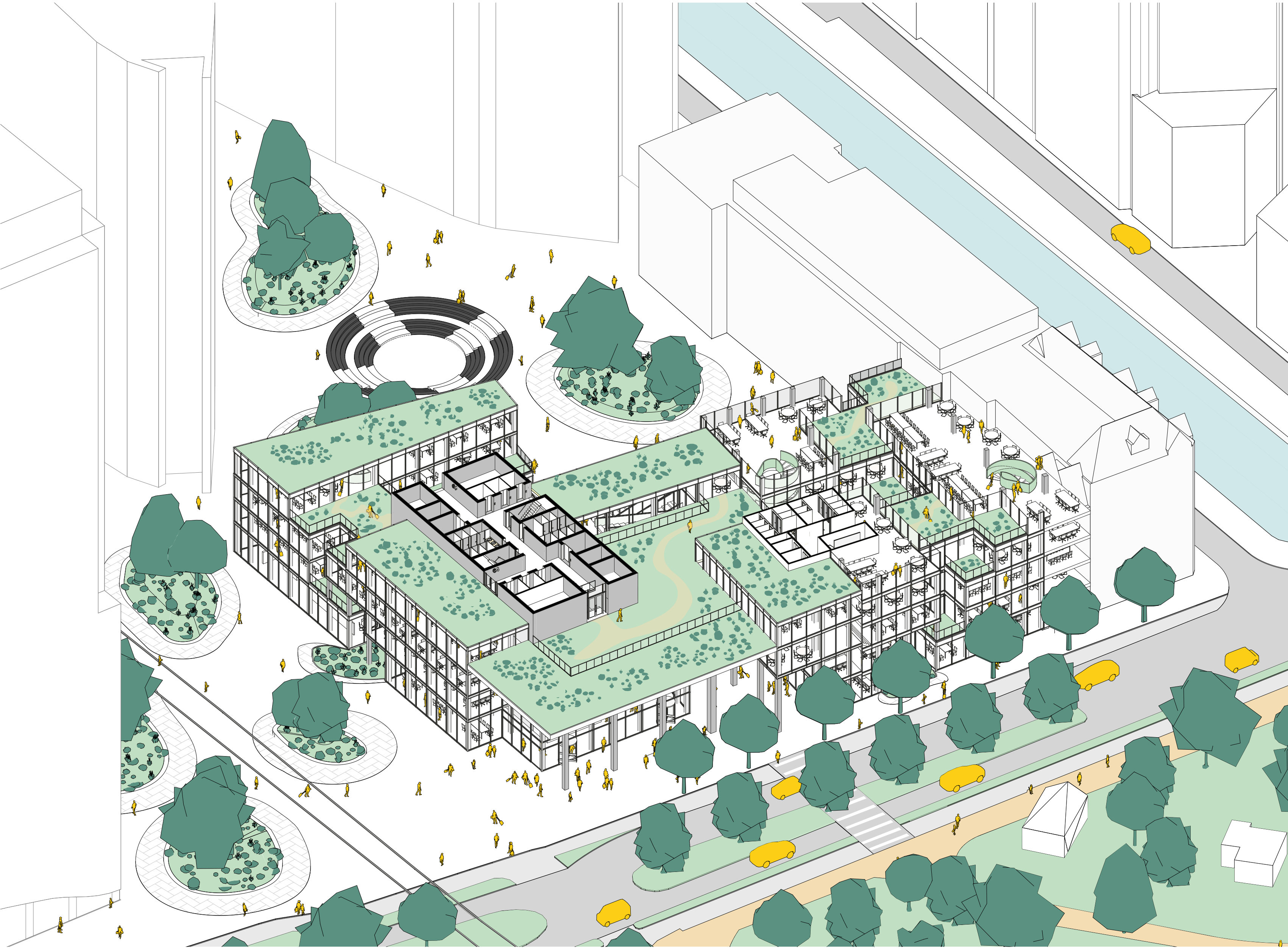
Discover

Courtyard



Discover

04 Fourth Floor



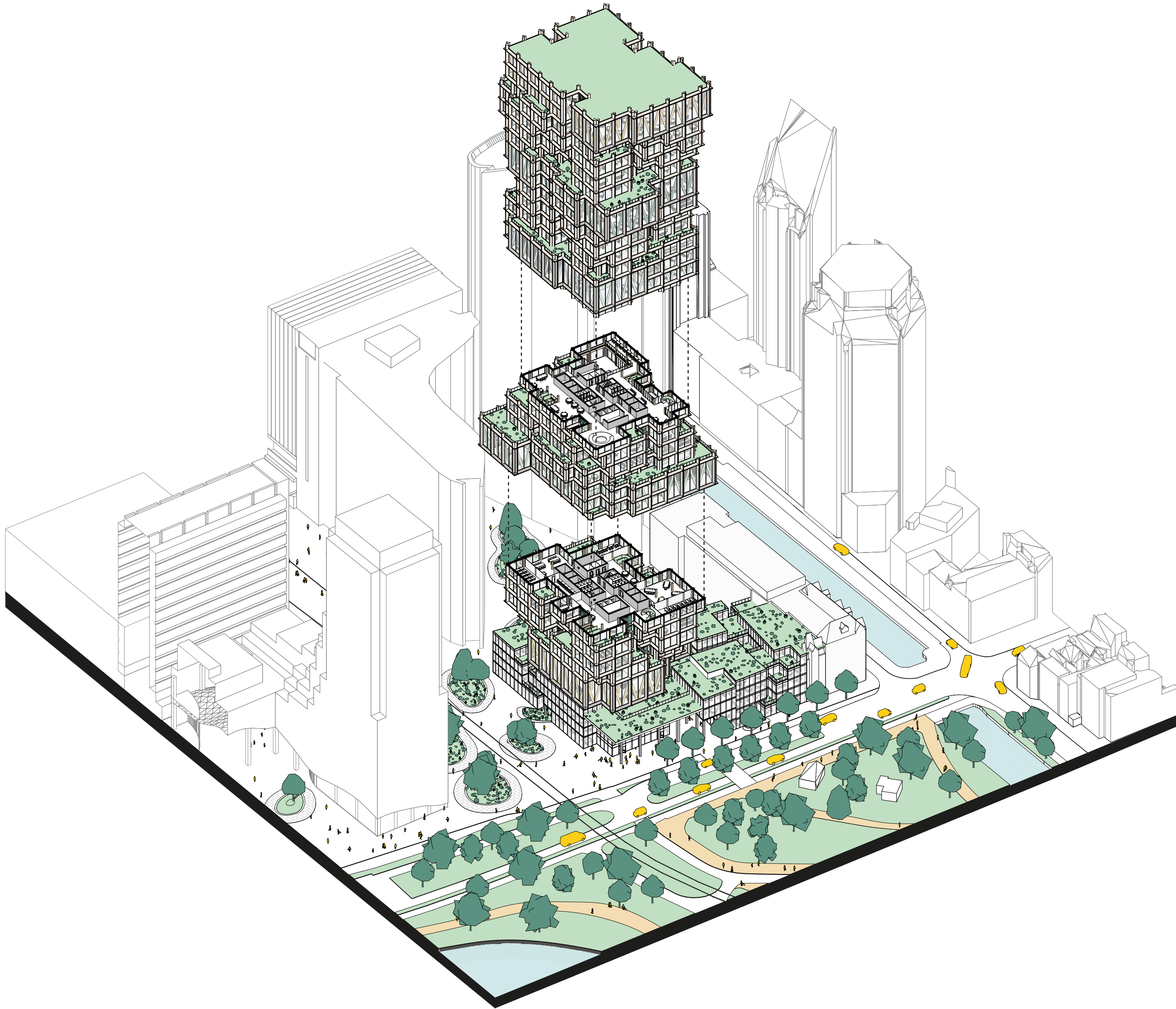
Discover

Rooftop Landscape



Gather

Hearth of the university

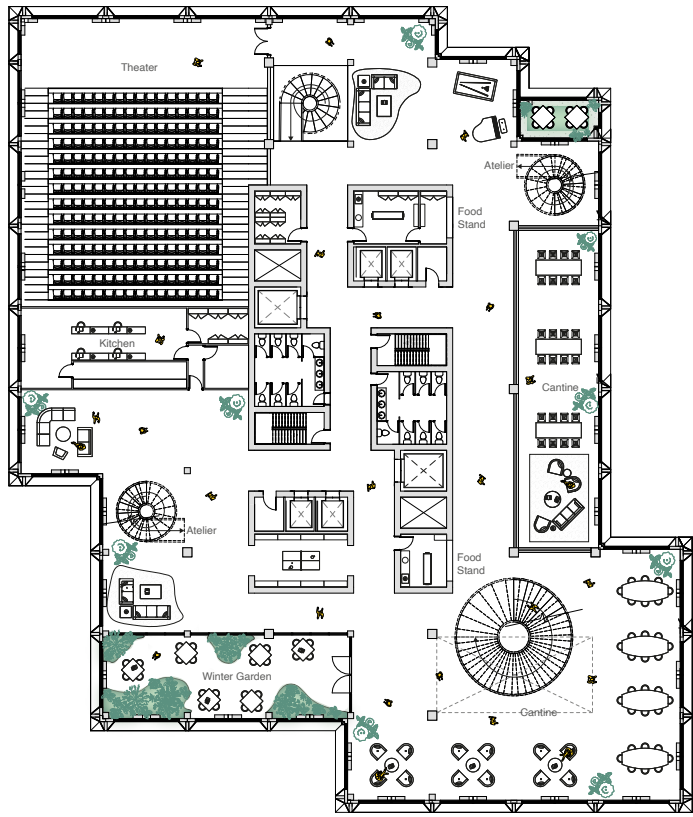


Gather

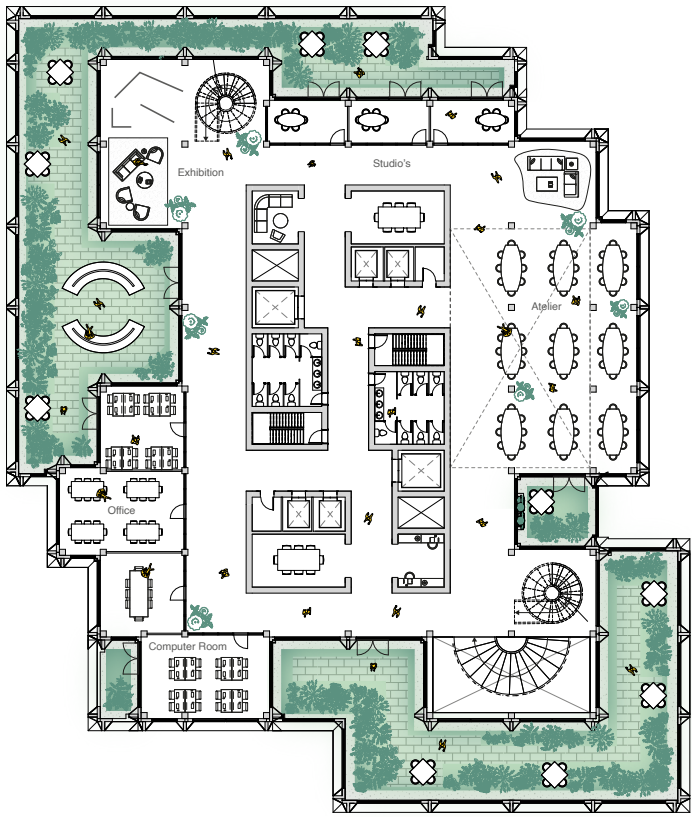
Floorplan Principles



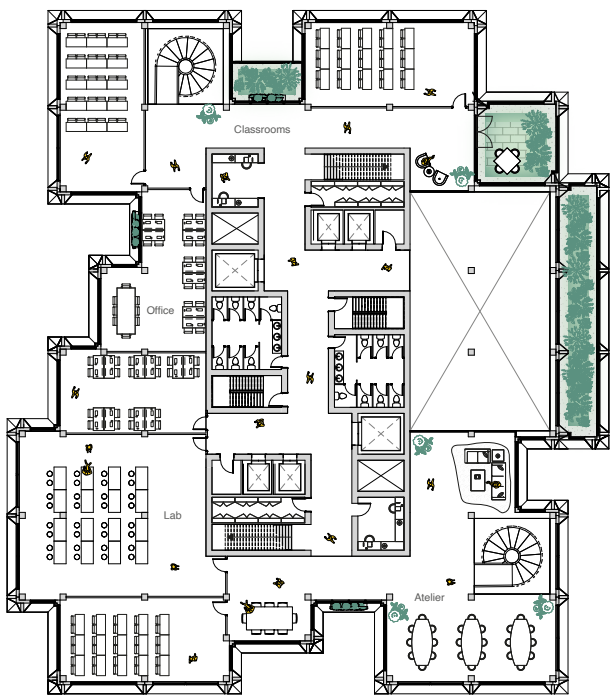
Waterhole



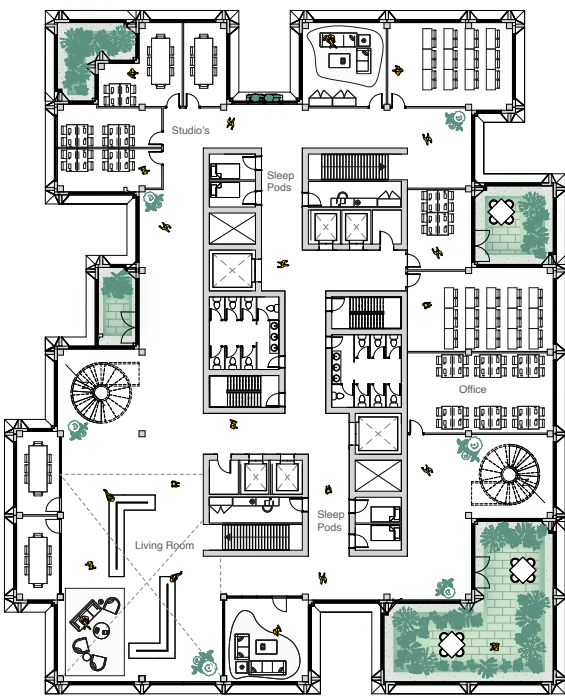
Oasis



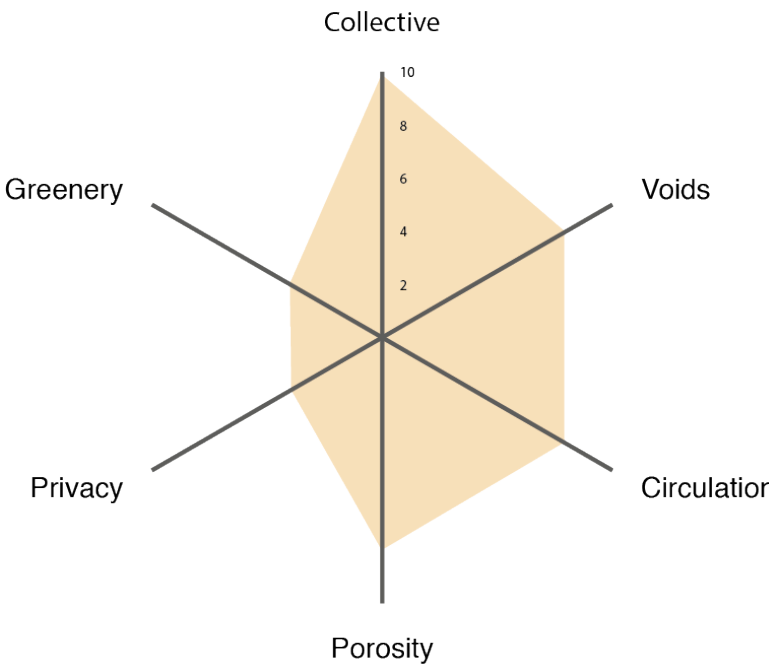
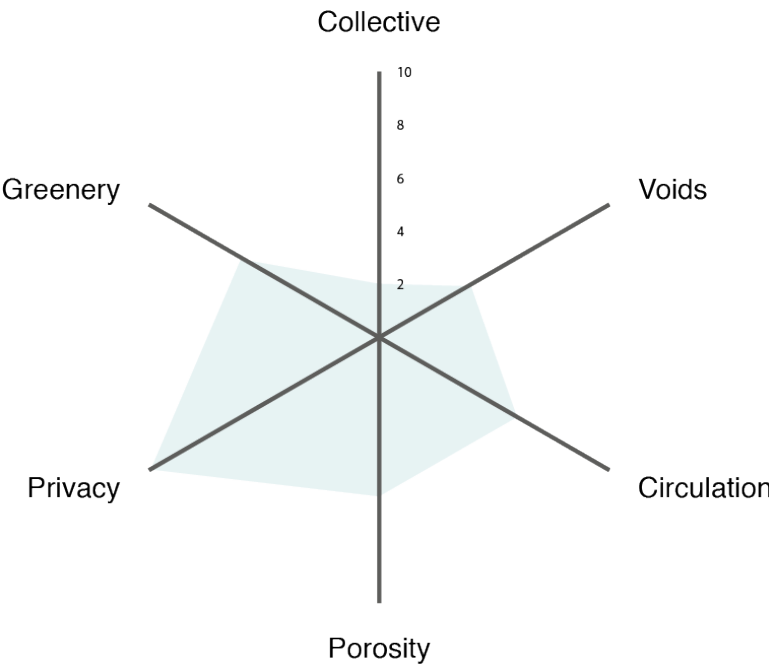
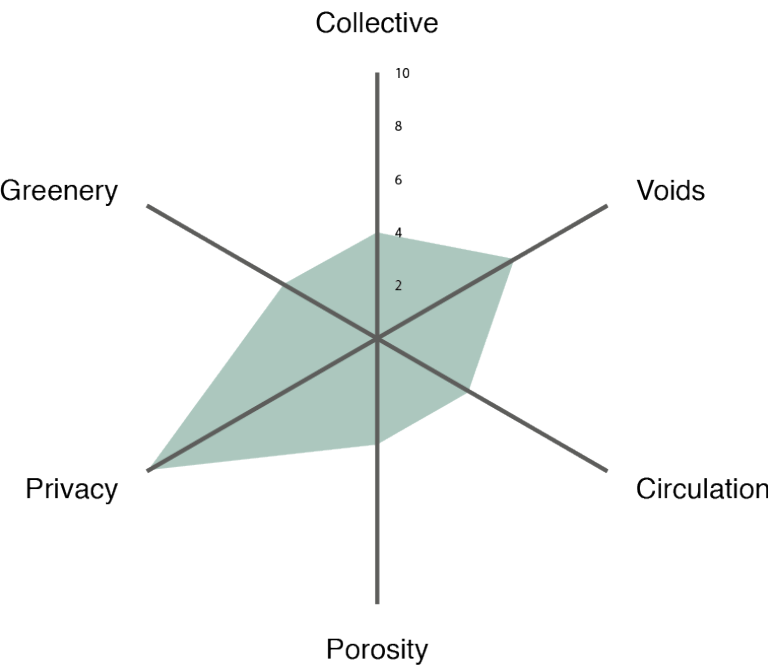
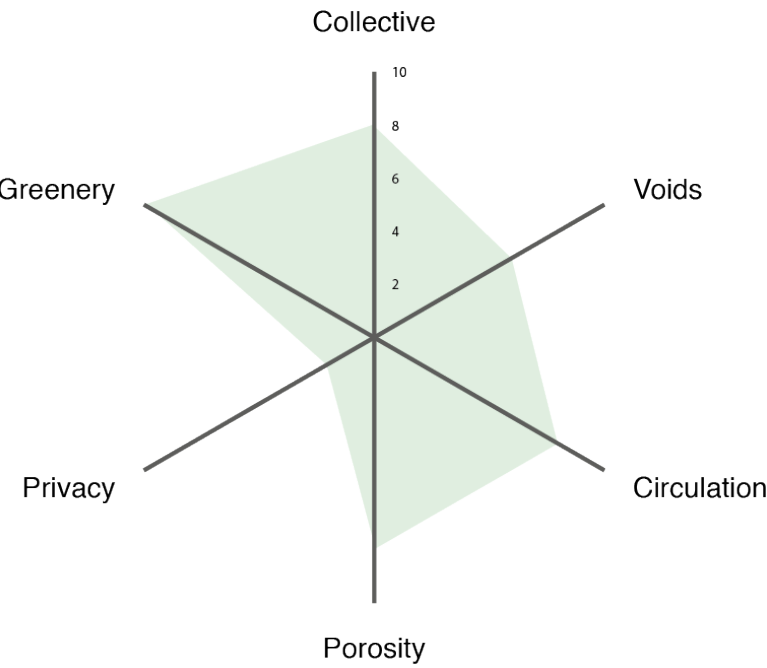
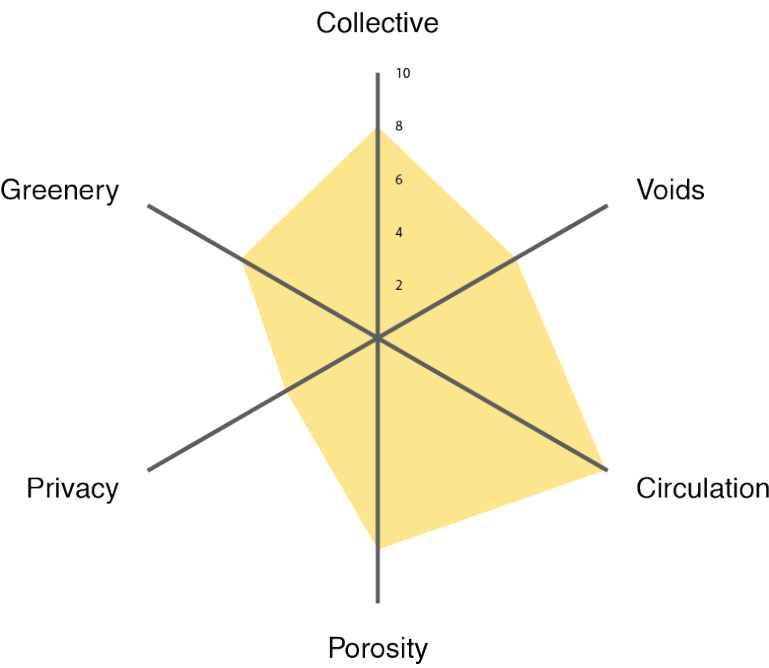
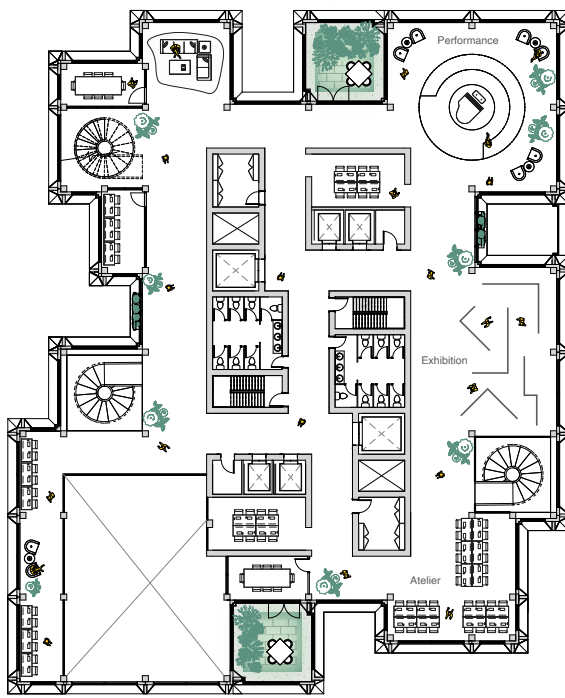
Cove



Nest

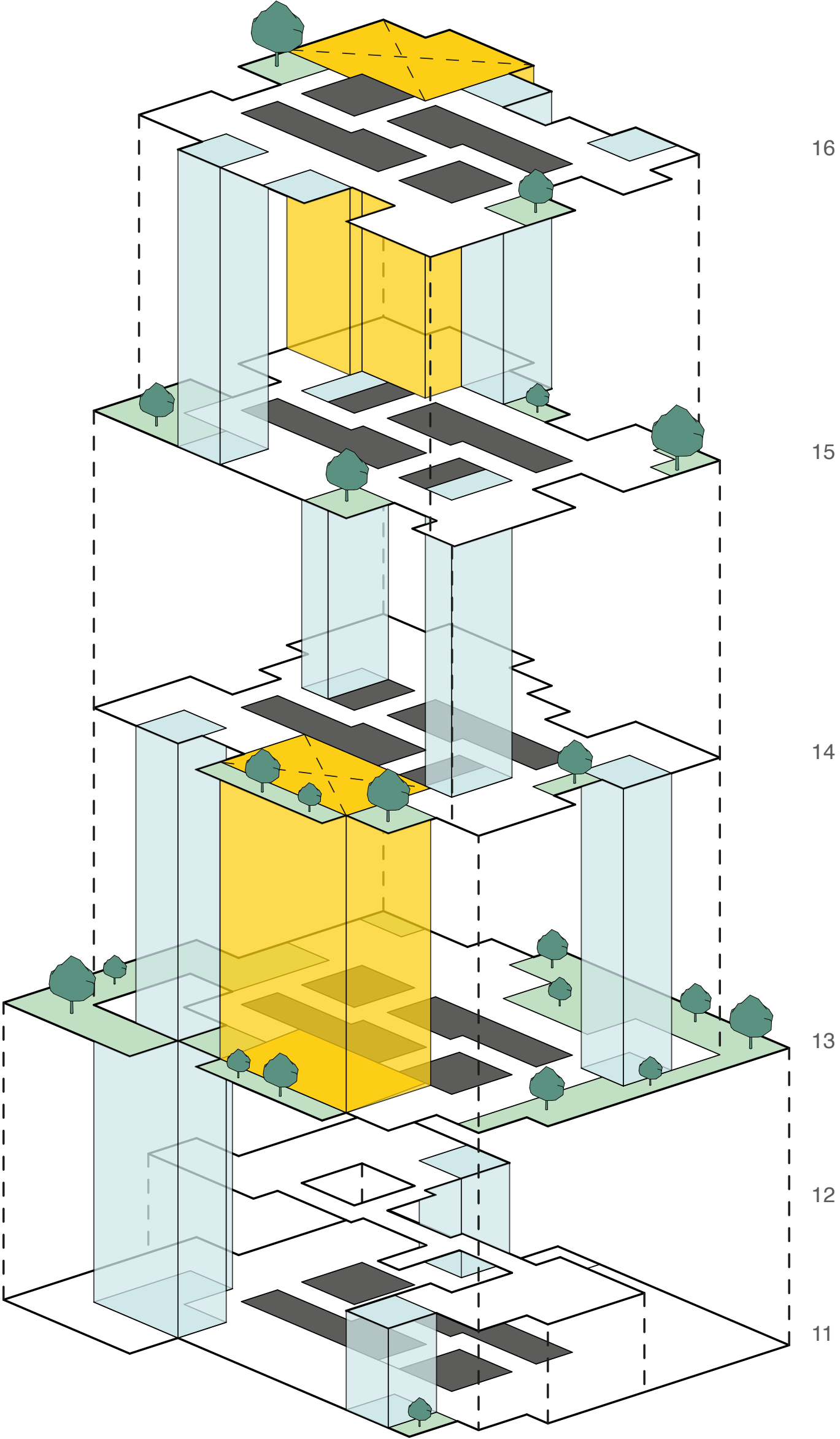


Campfire



Gather

Vertical Connections

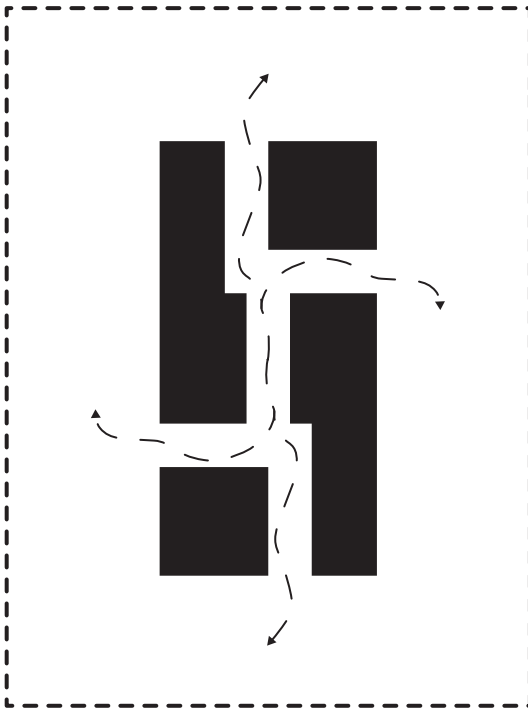


Core Design

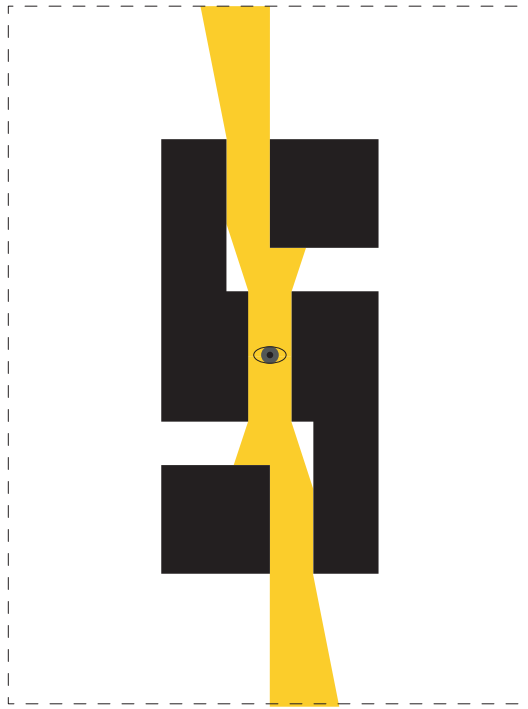
Design Principles



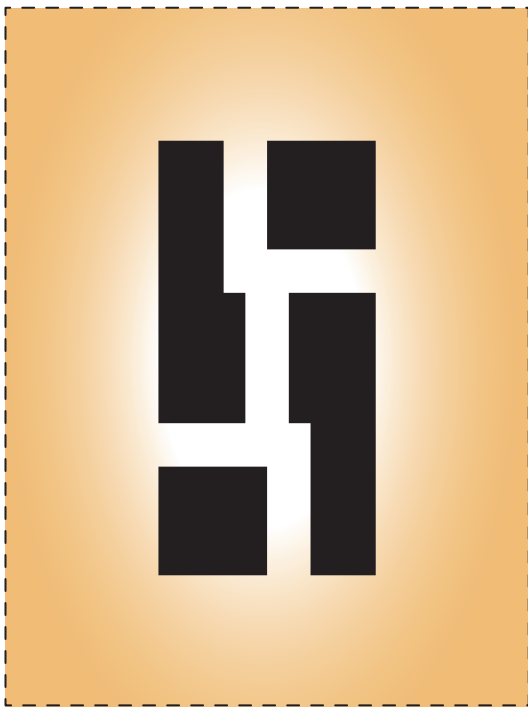
Program



Movement



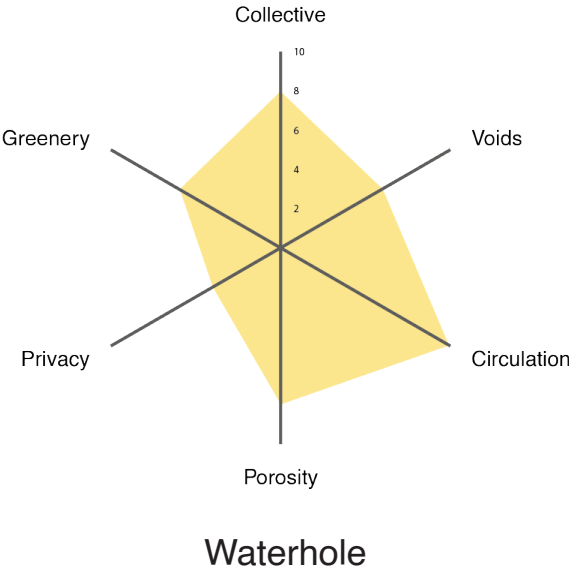
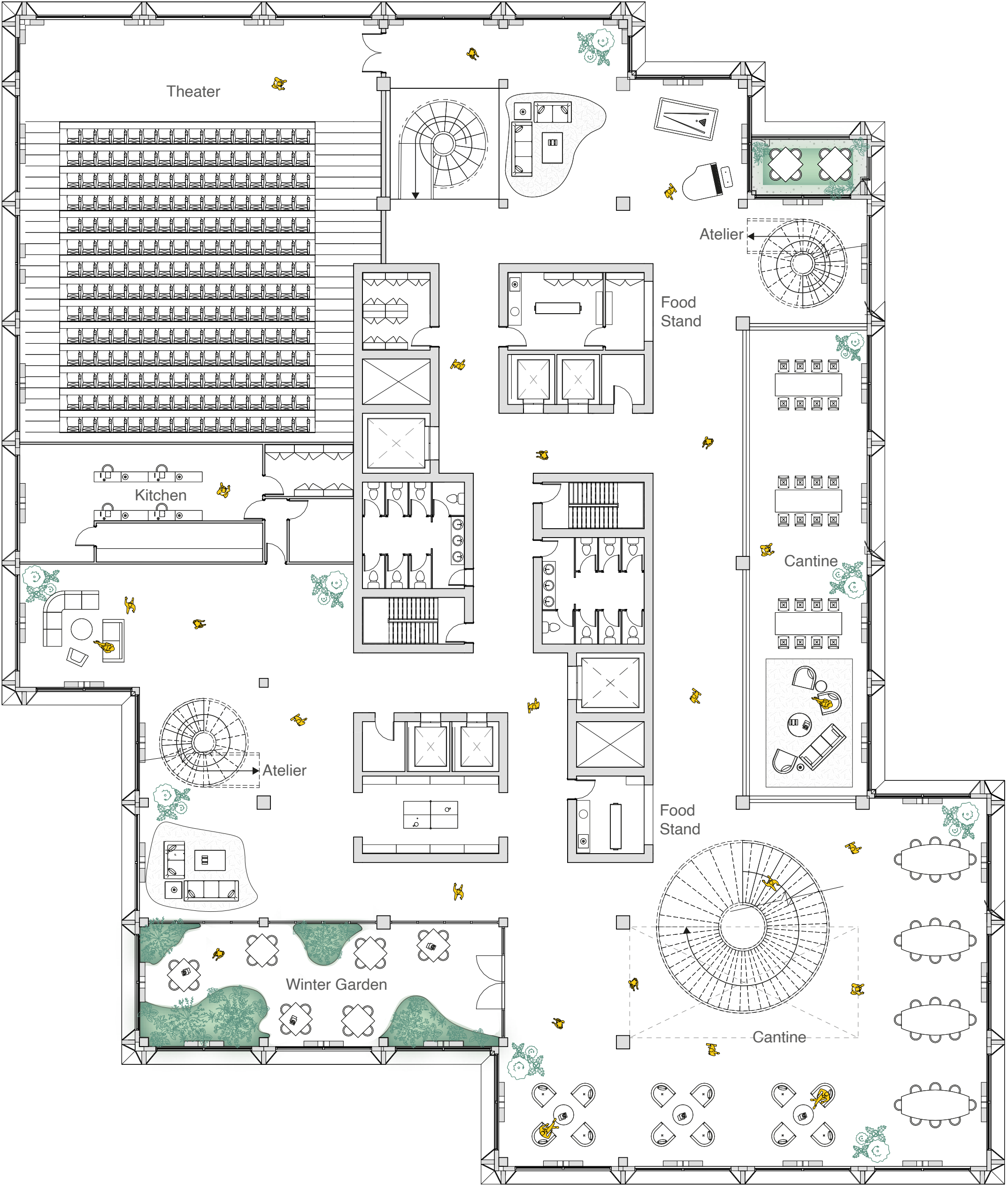
Sightlines



Privacy

Waterhole

11th Floor



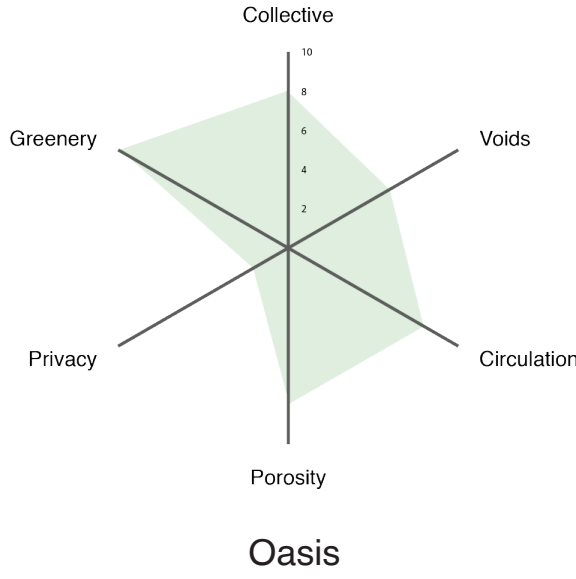
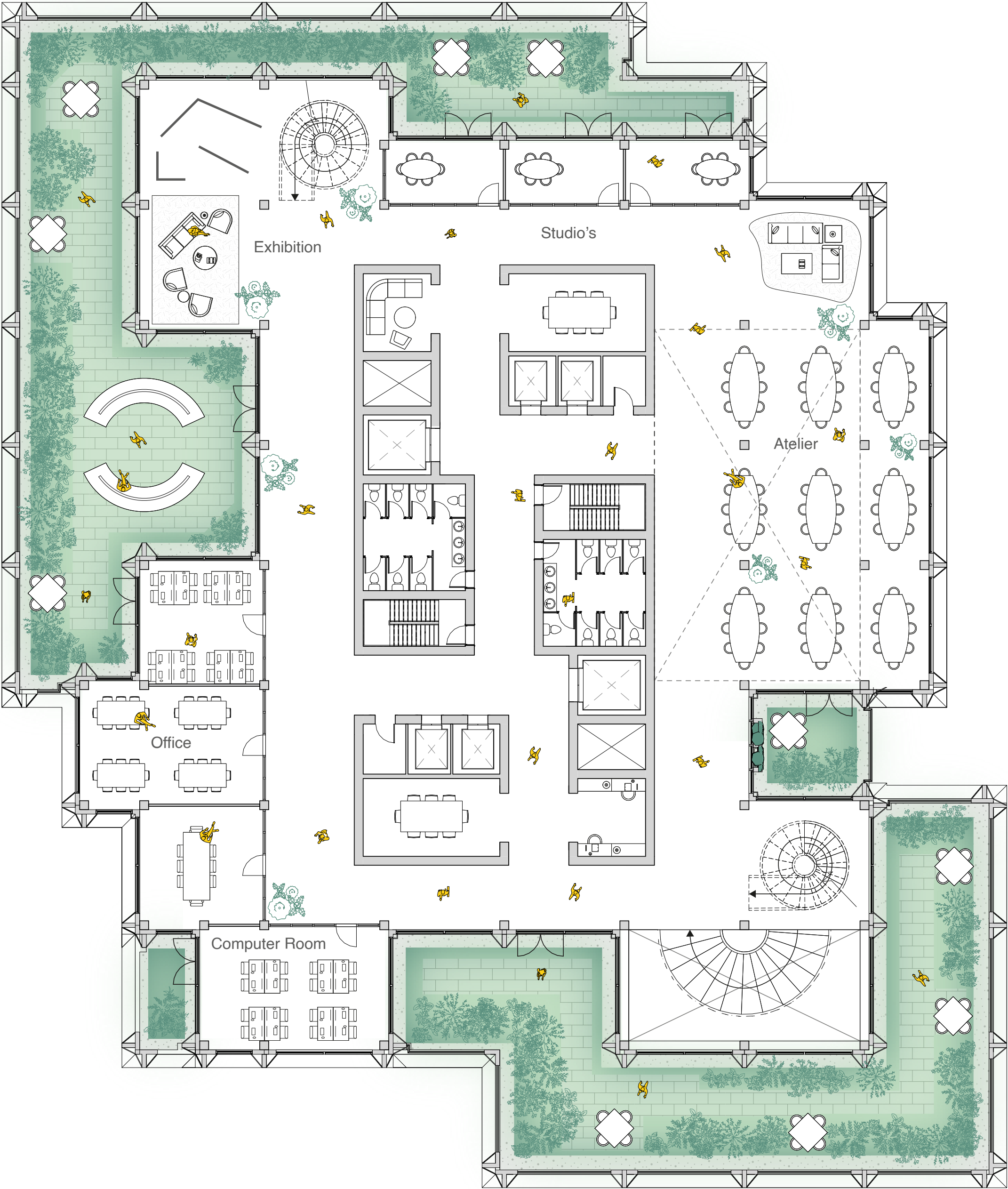
Waterhole

Cantine



Oasis

13th Floor



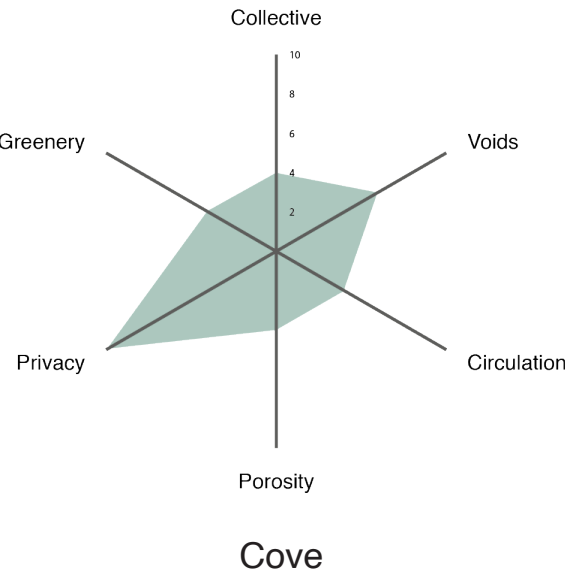
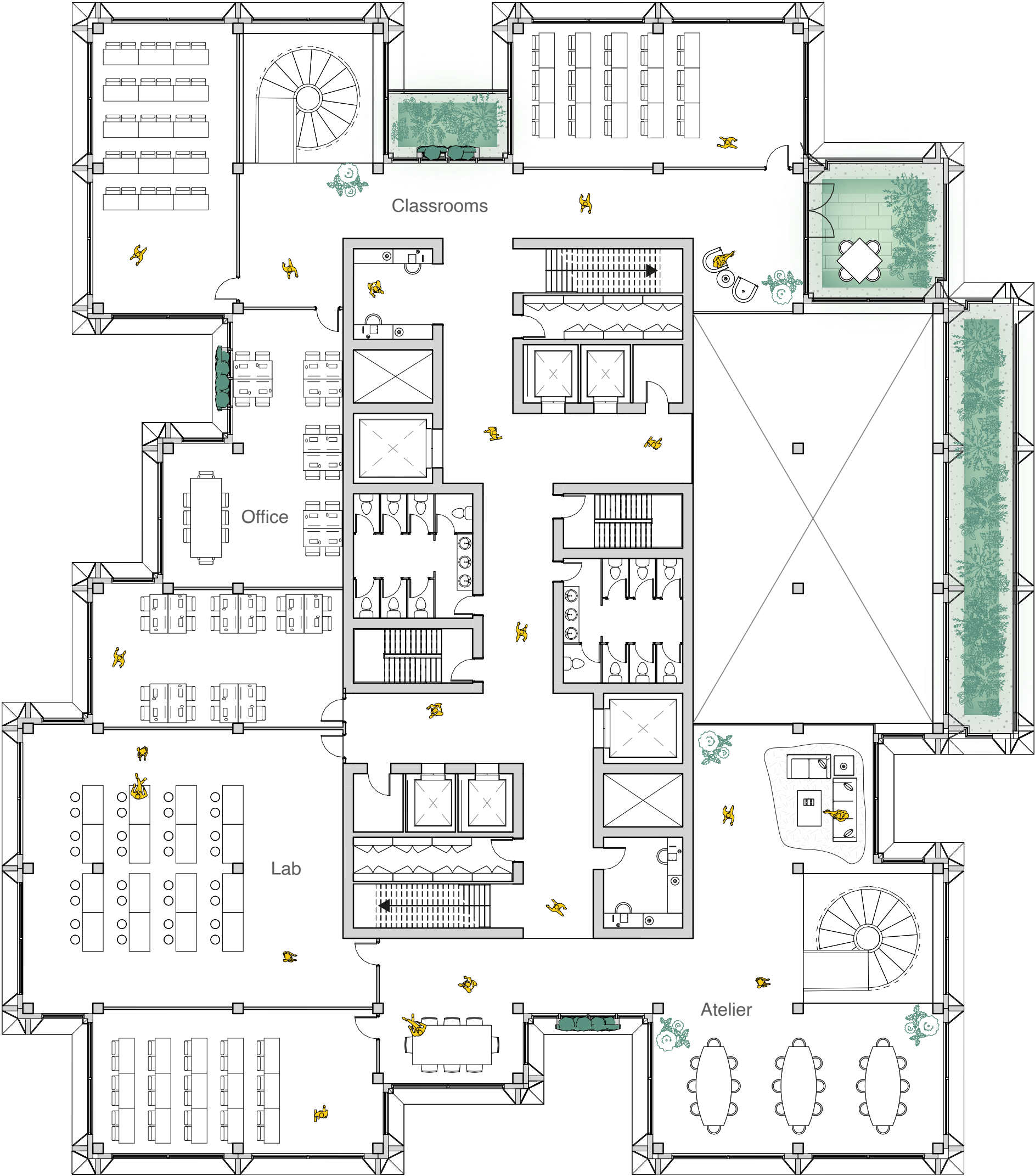
Oasis

Outdoor Connections



Cove

14th Floor



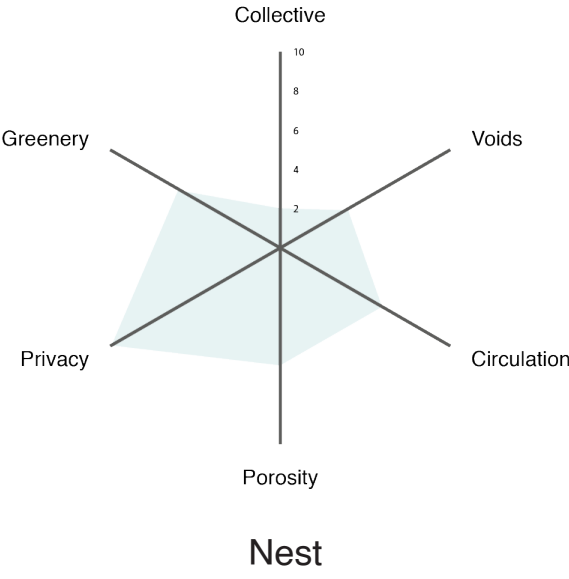
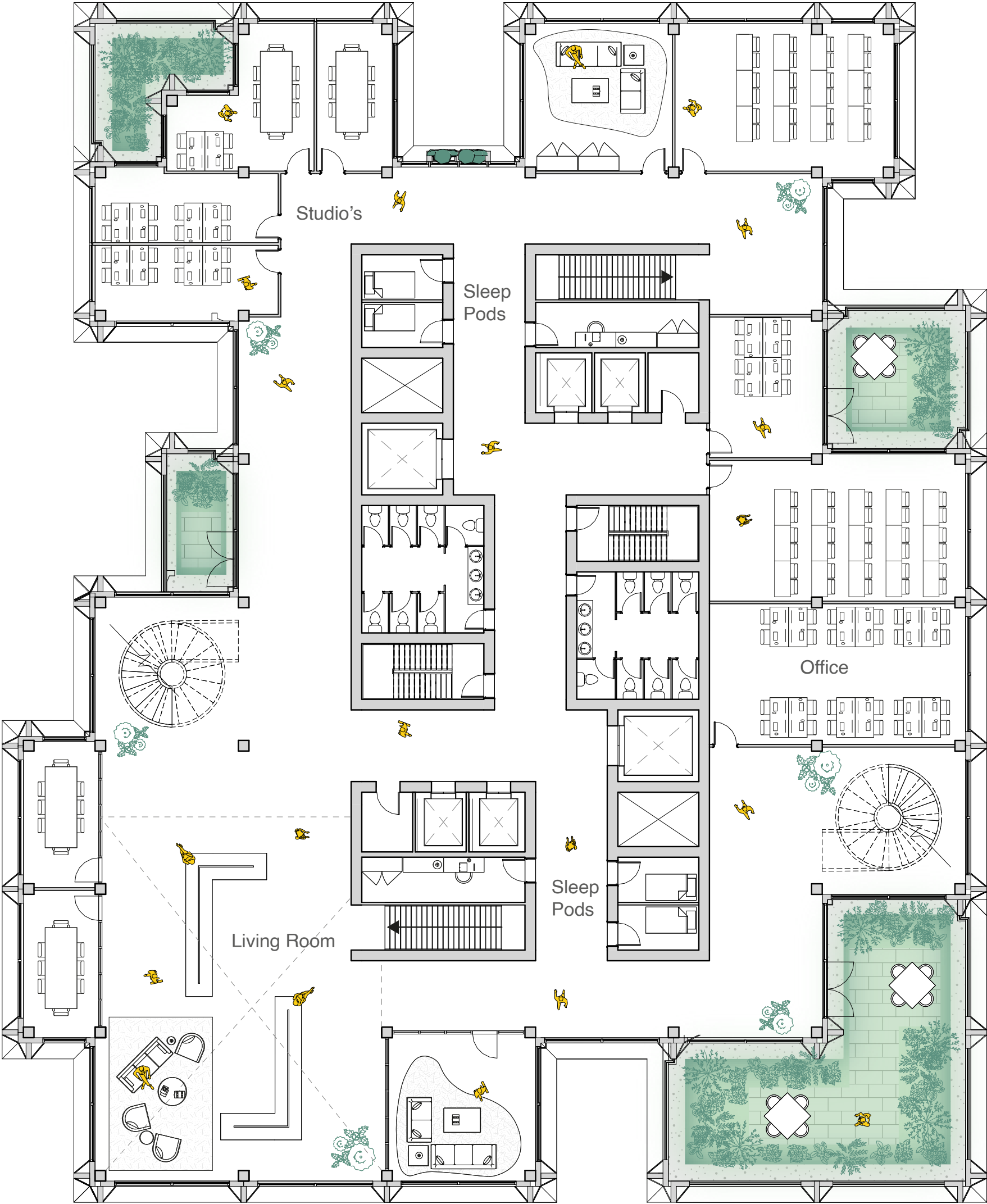
Cove

Voids



Nest

15th Floor



Circulation space



Program Distribution

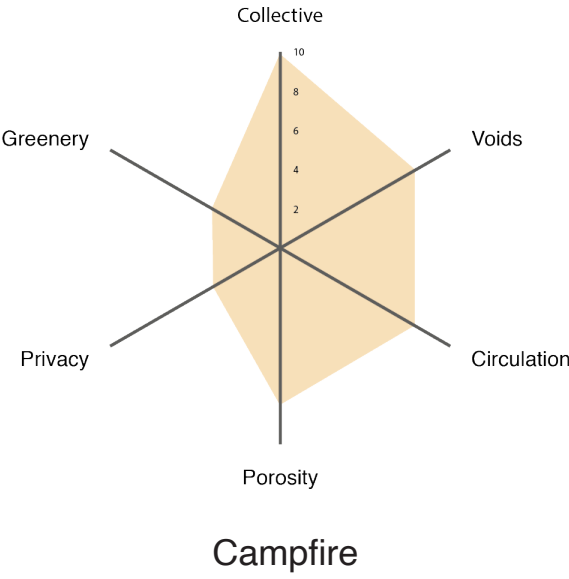
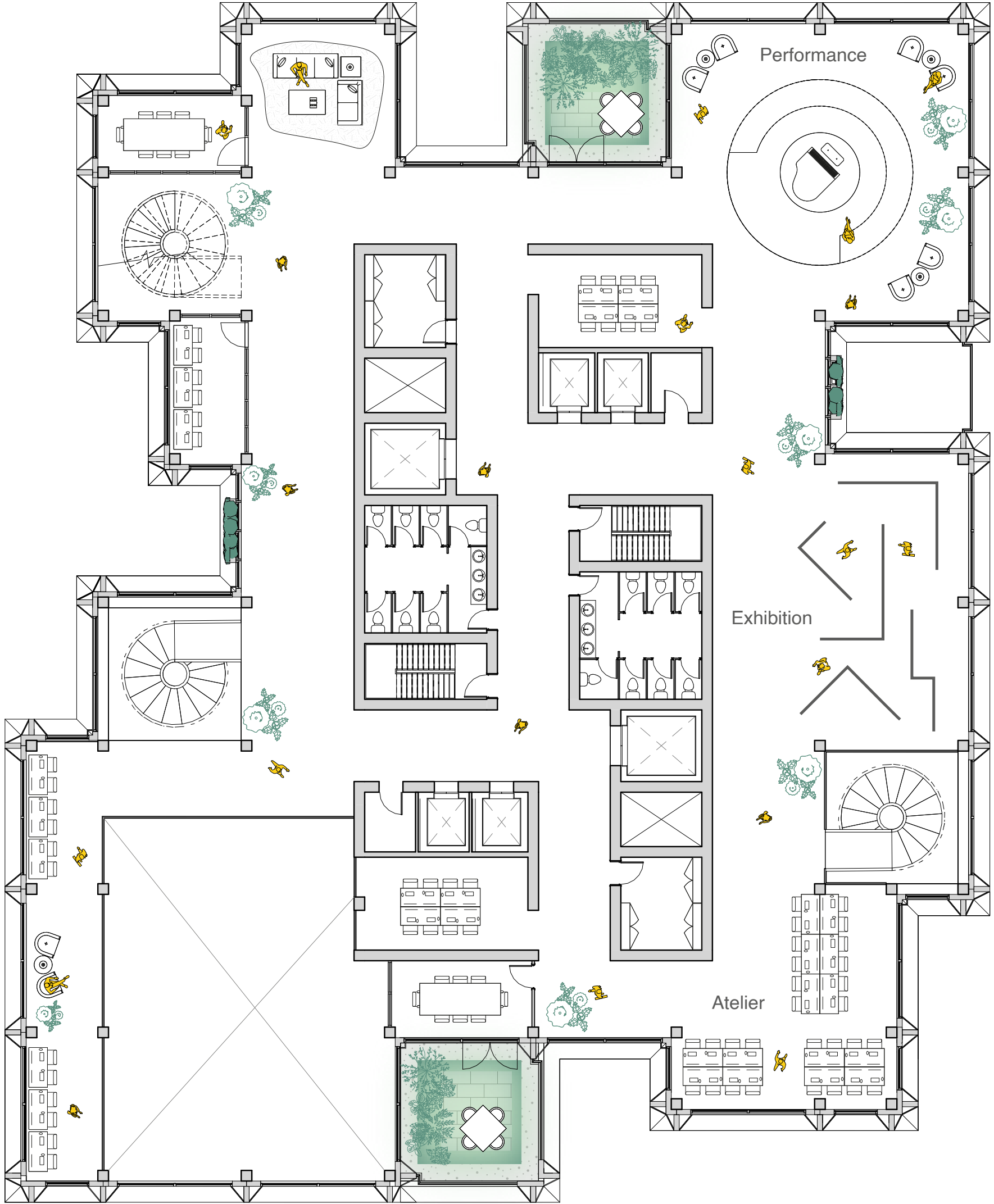
Nest

Living Room



Campfire

16th Floor



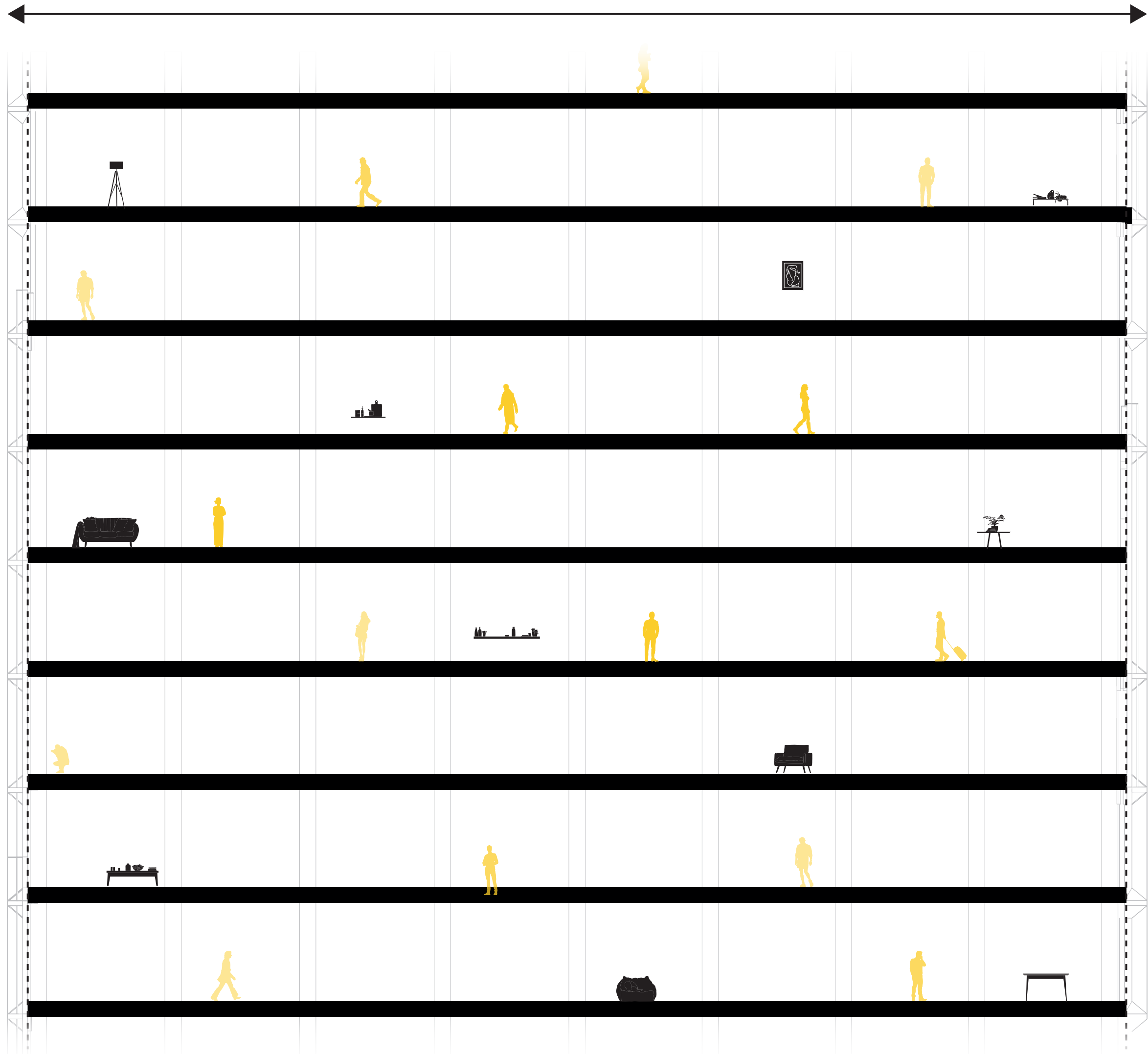
Campfire

Performance



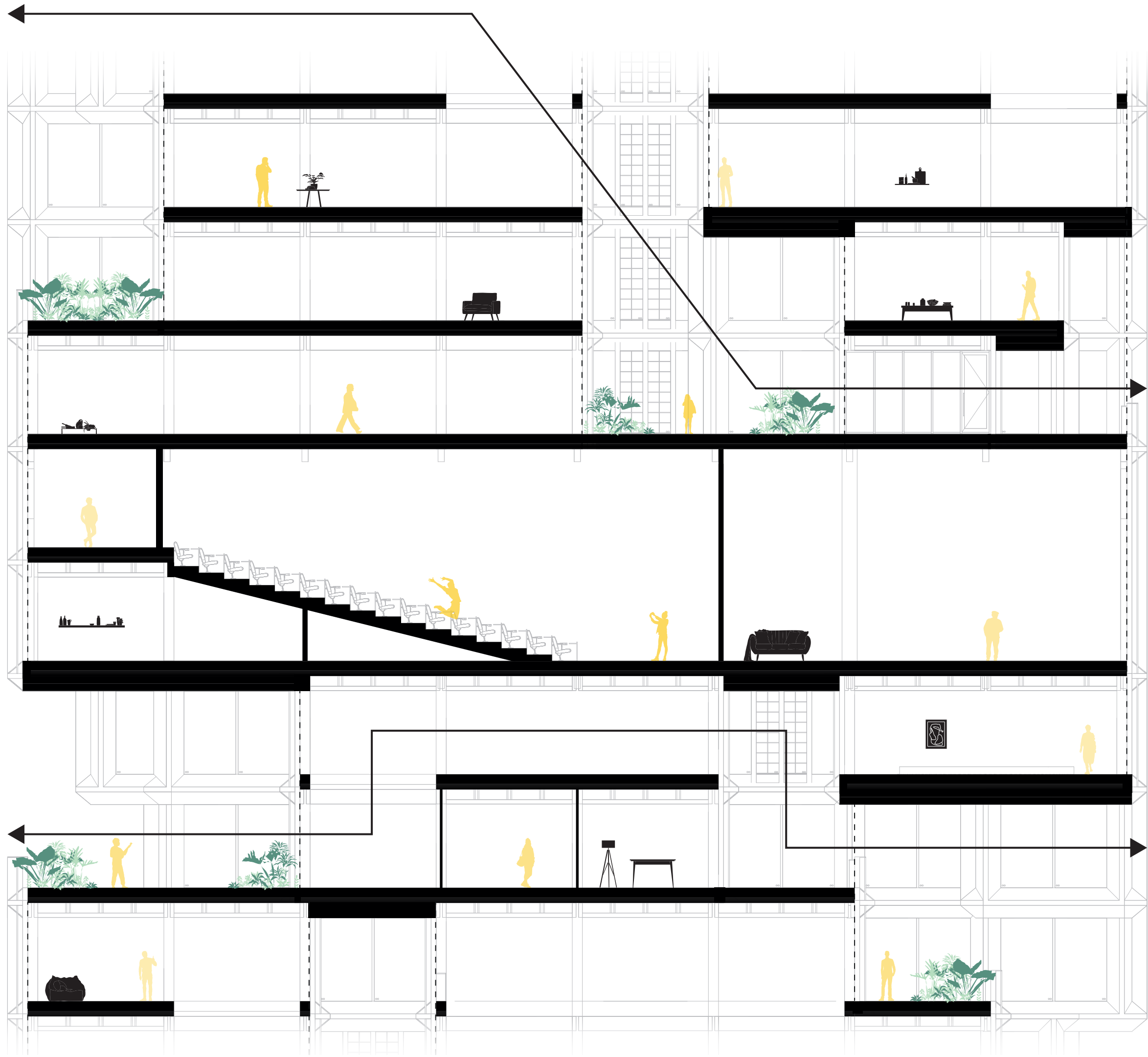
Vertical Landscape

Traditional Layout



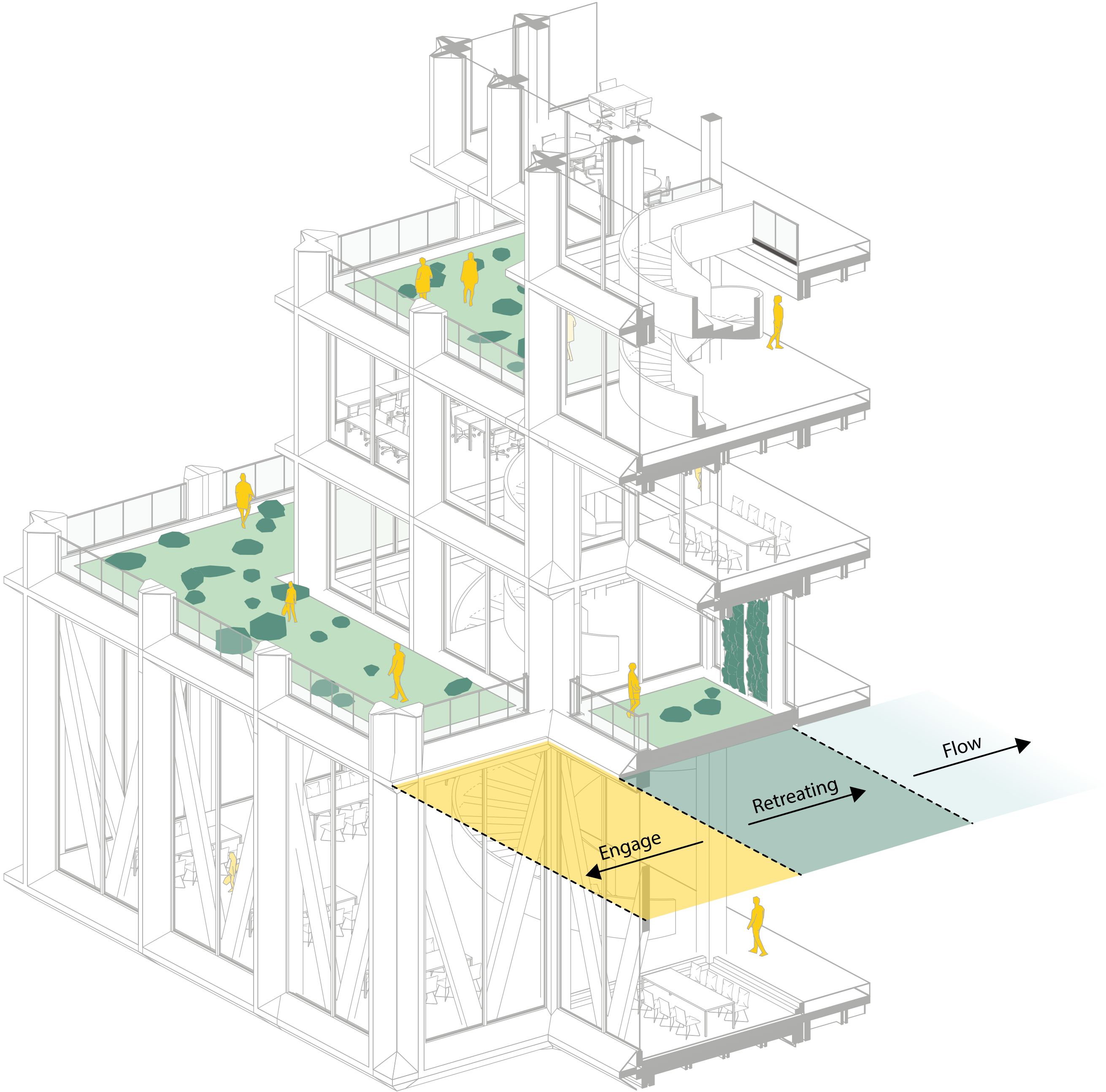
Vertical Landscape

Interactive Layout



Skin

Facade Layers



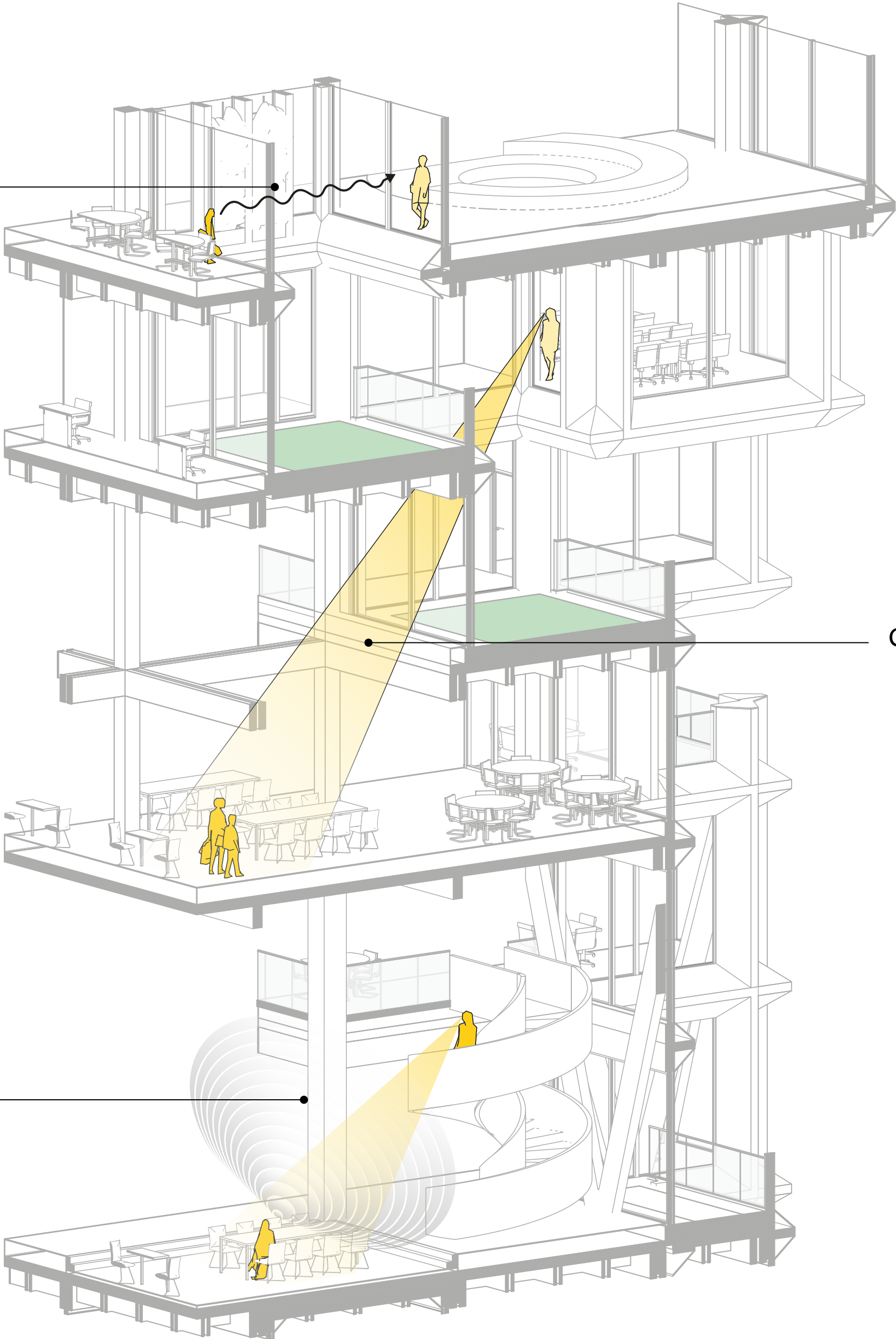
Skin

Visual Connections

Filtered Interactions

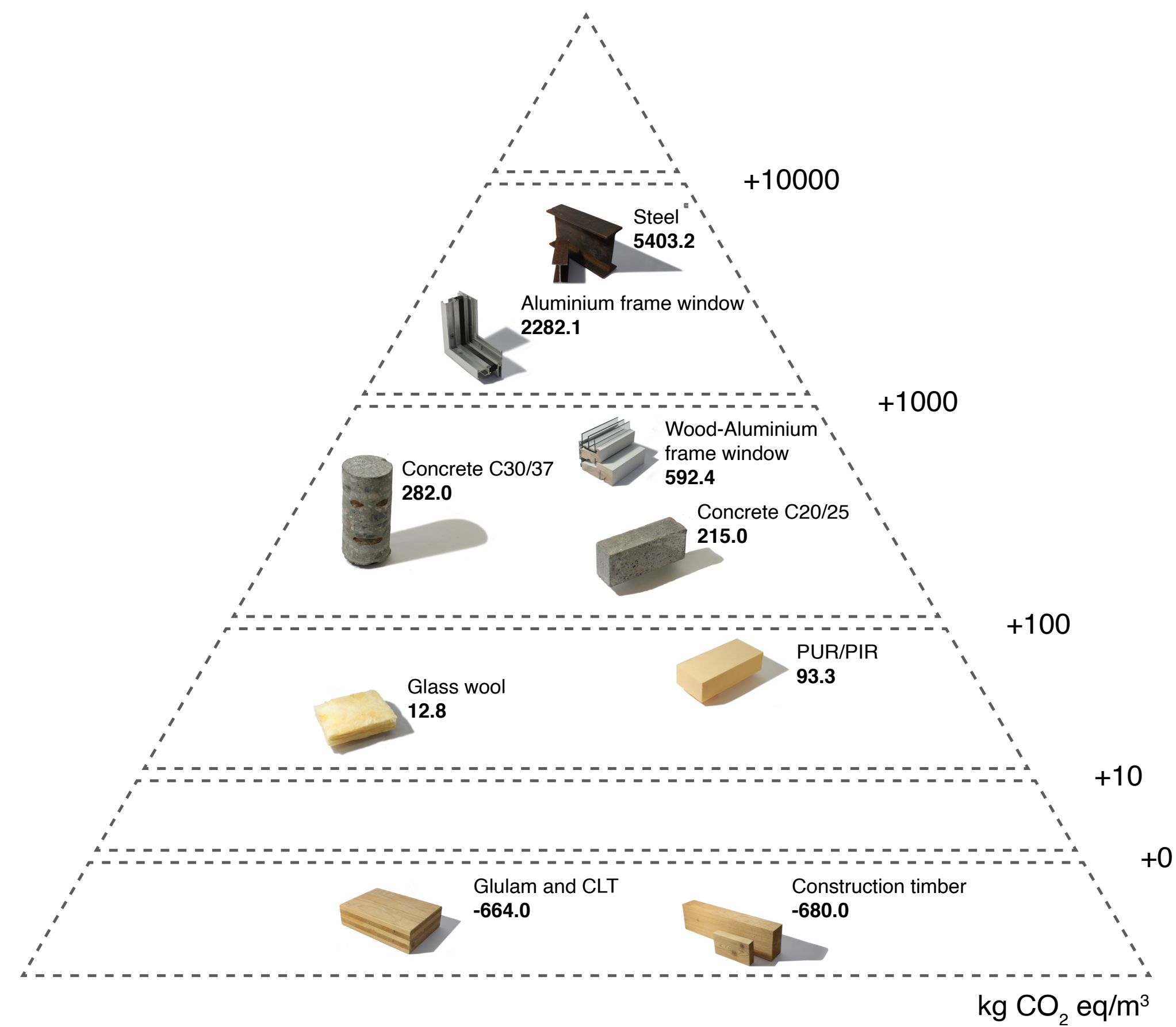
Obscure Interactions

Direct Interaction



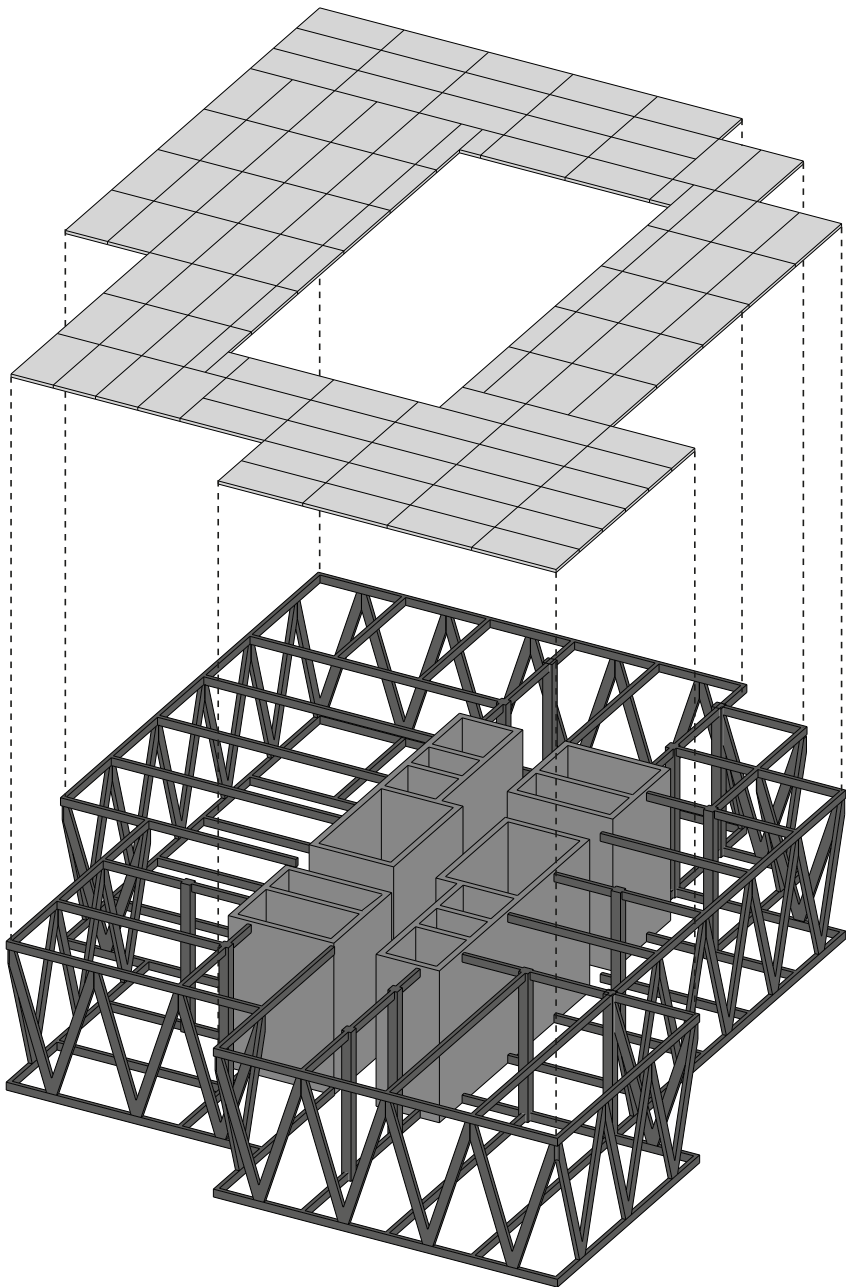
Sustainability

Carbon Footprint



Structure

Embodied Carbon



1. Concrete & Steel

115,1 kg CO₂ eq per m²

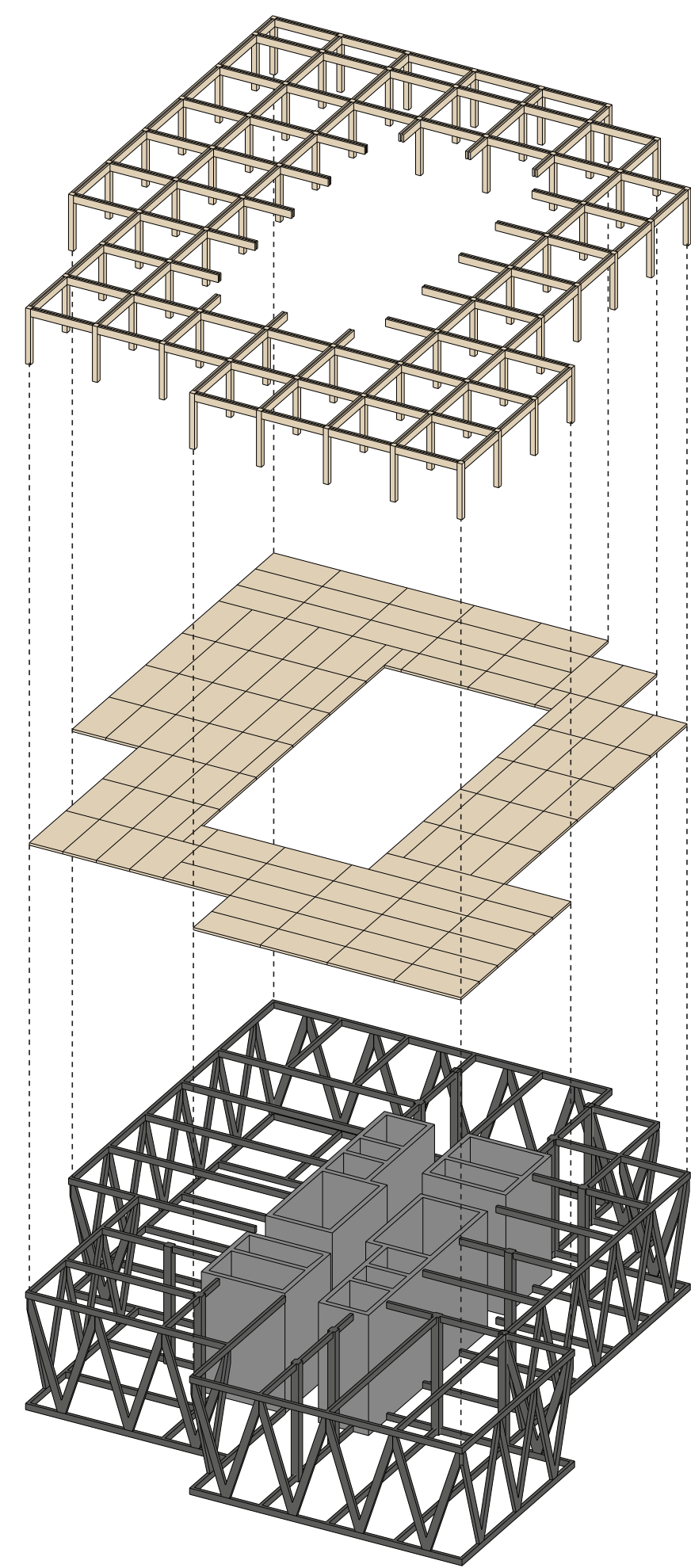


2. Hybrid of Steel, Concrete & timber

-21,4 kg CO₂ eq per m²

Structure

Embodied Carbon



1. Concrete & Steel

115,1 kg CO₂ eq per m²

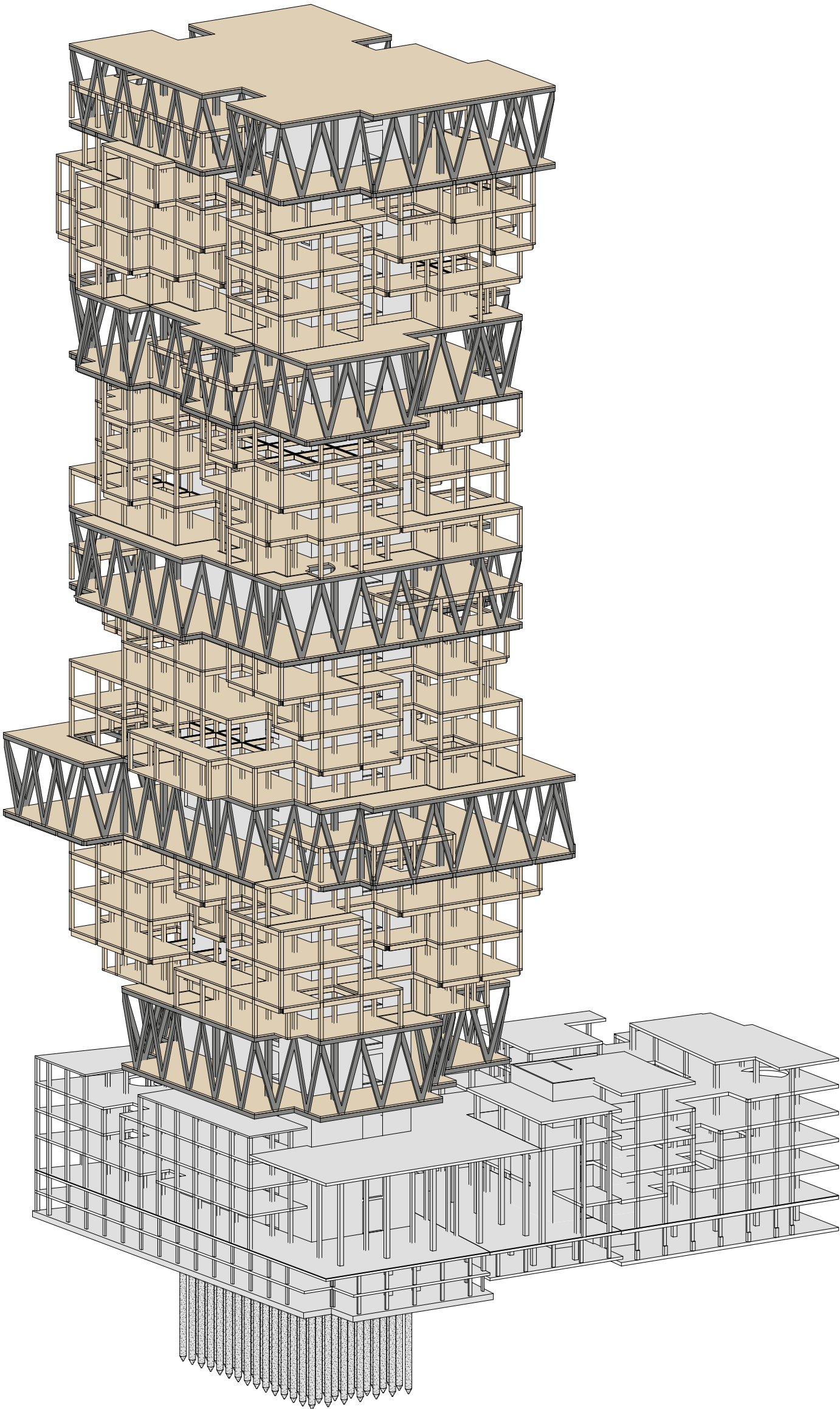


2. Hybrid of Steel, Concrete & timber

-21,4 kg CO₂ eq per m²

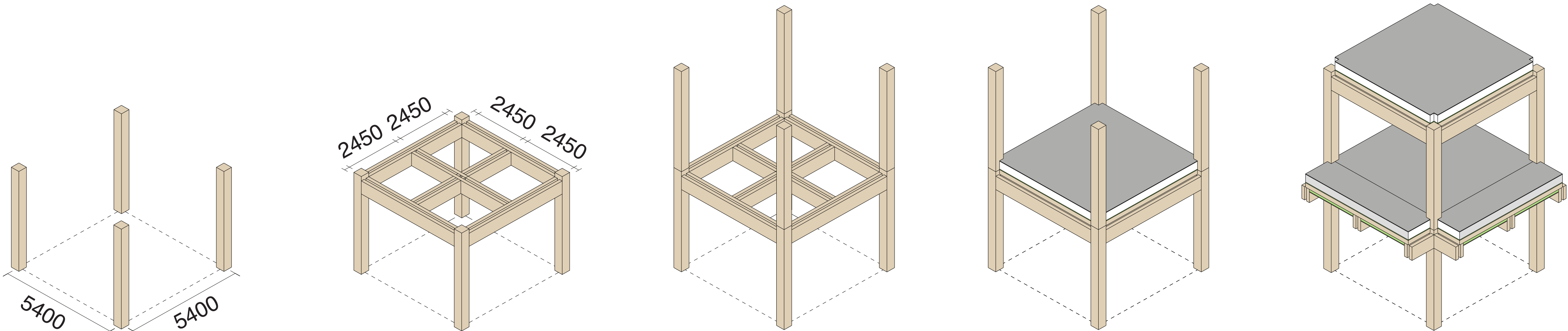
Structure

Building Sequence



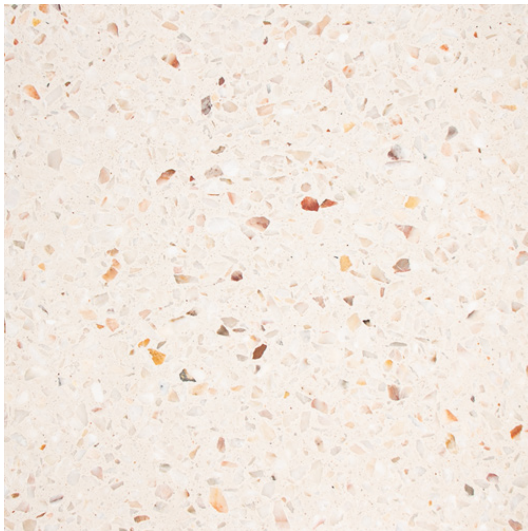
Structure

Timber Structure

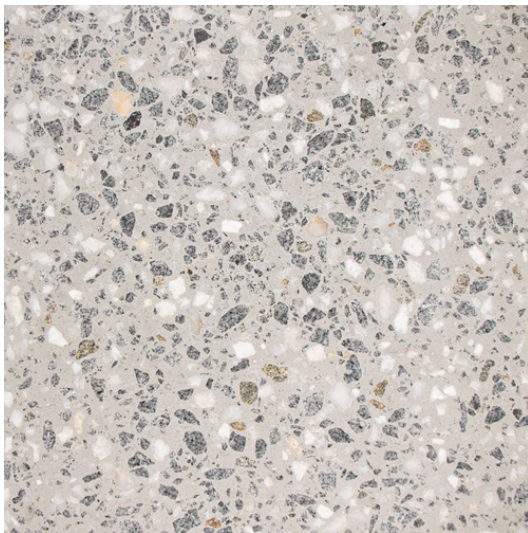


Skin

Facade Elements



Al fior di late

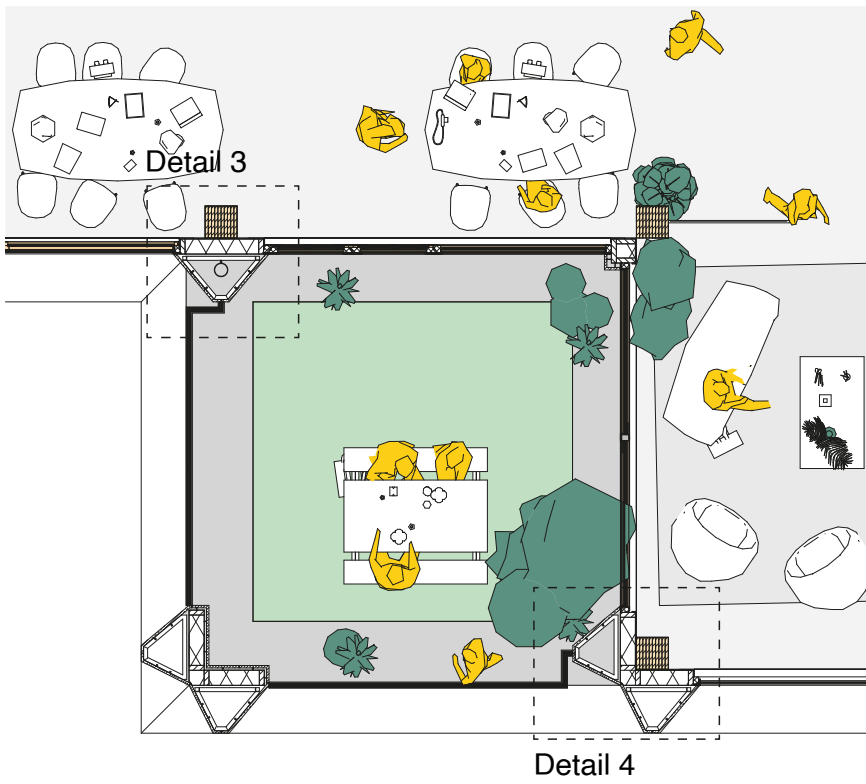
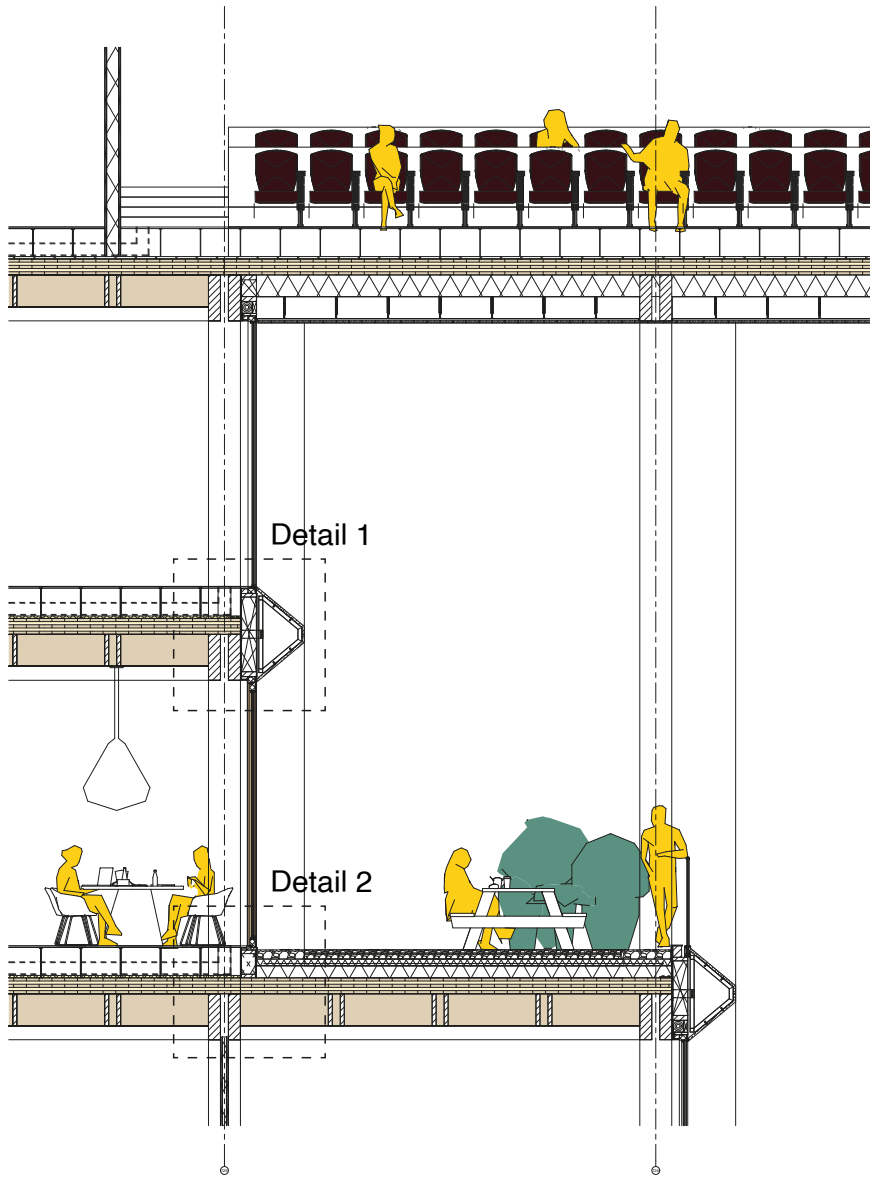
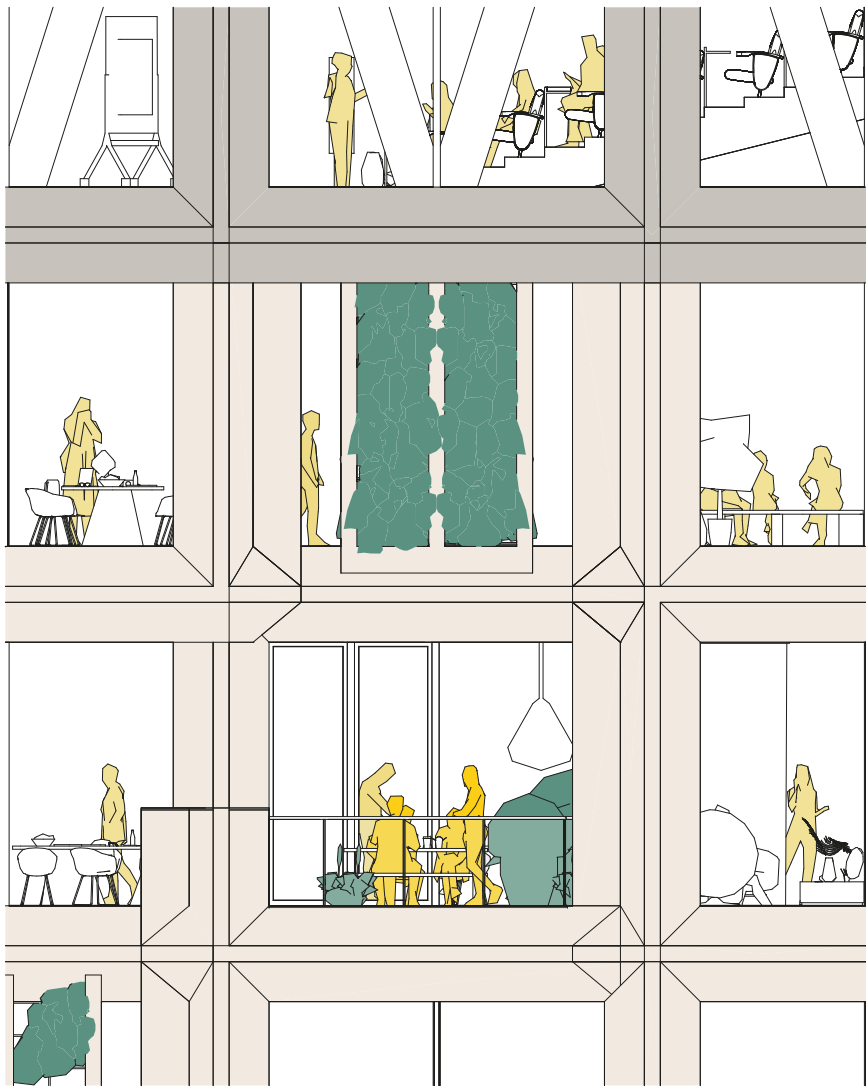


Málaga



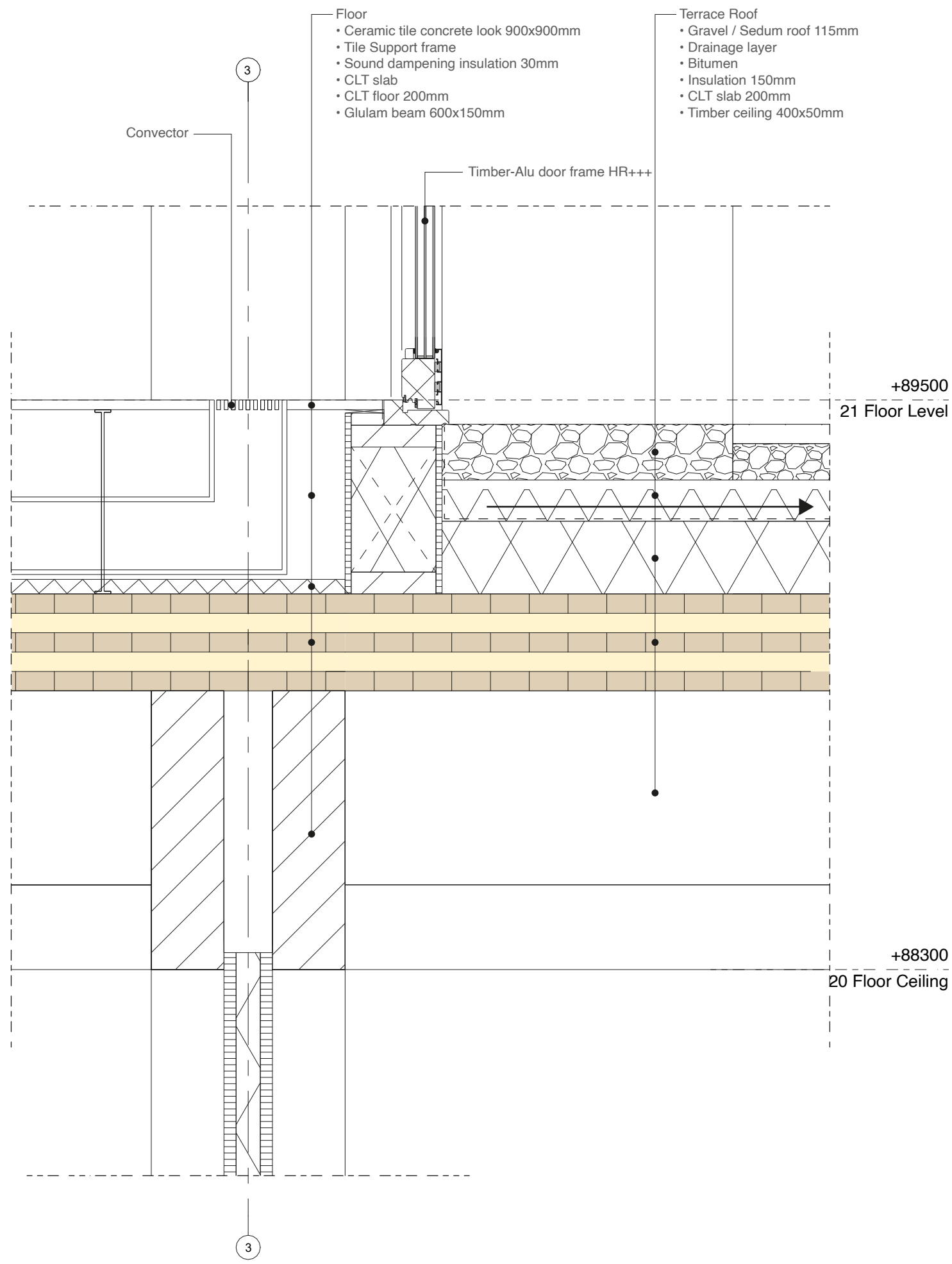
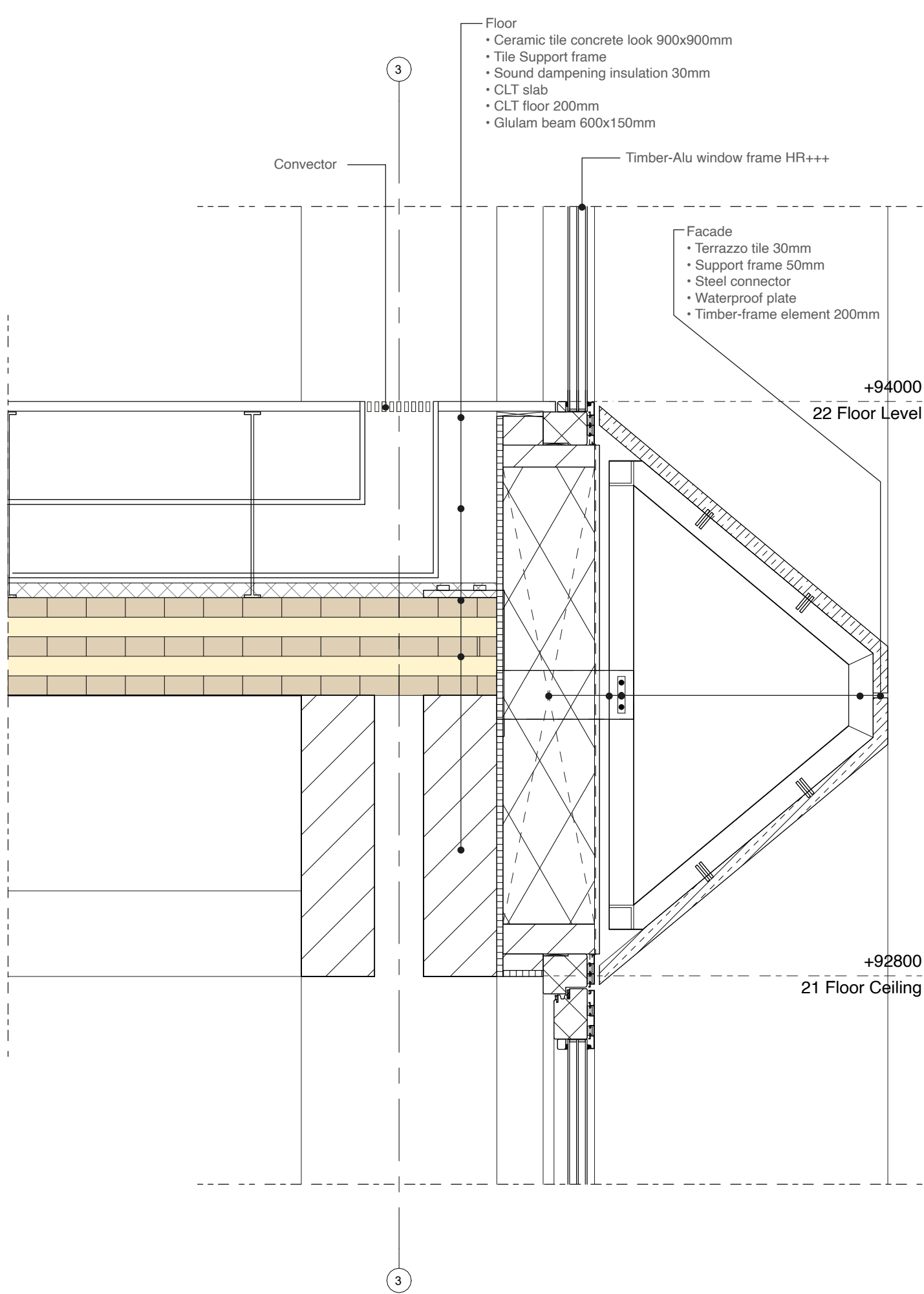
Technical Elaboration

Facade Fragment



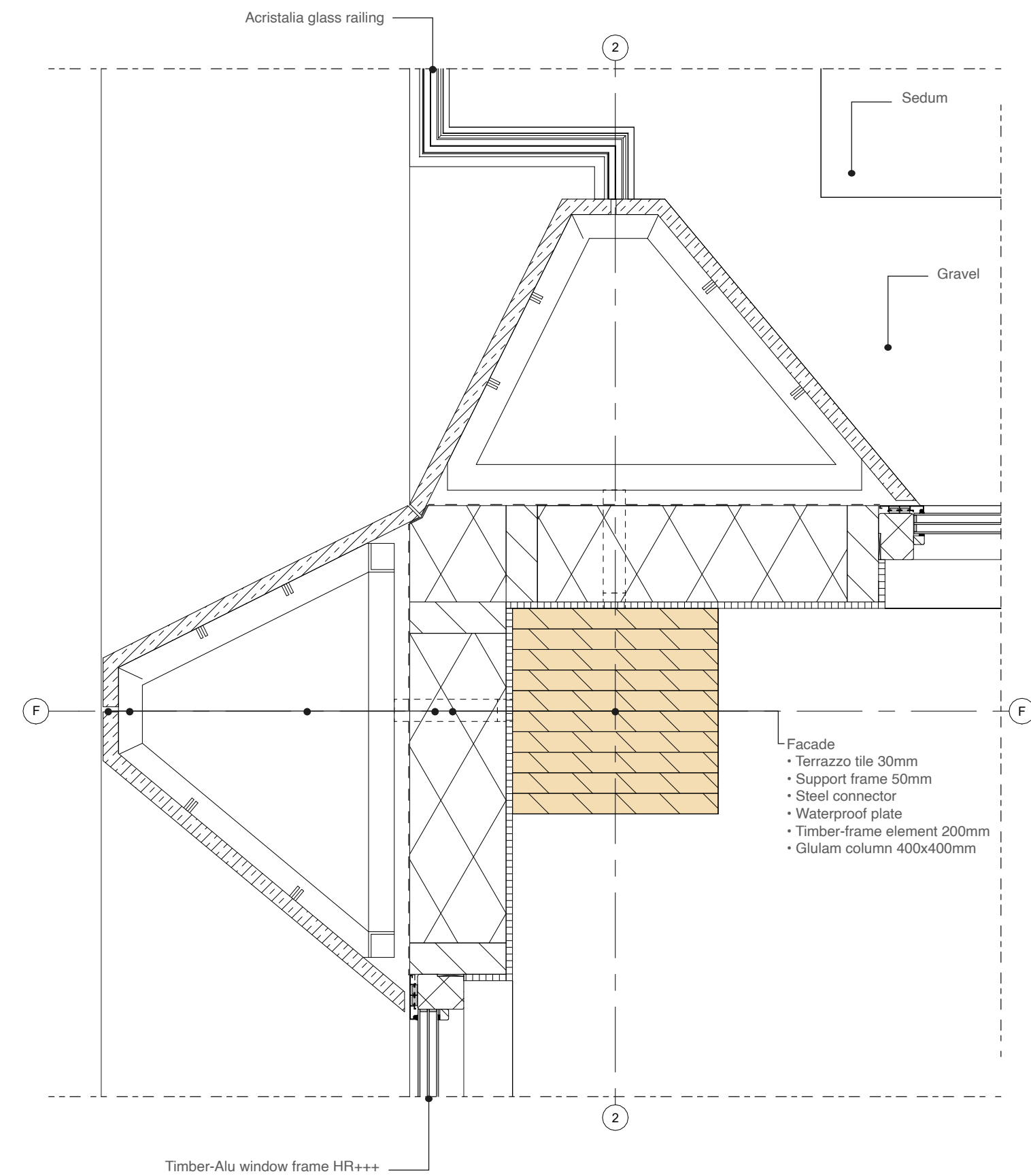
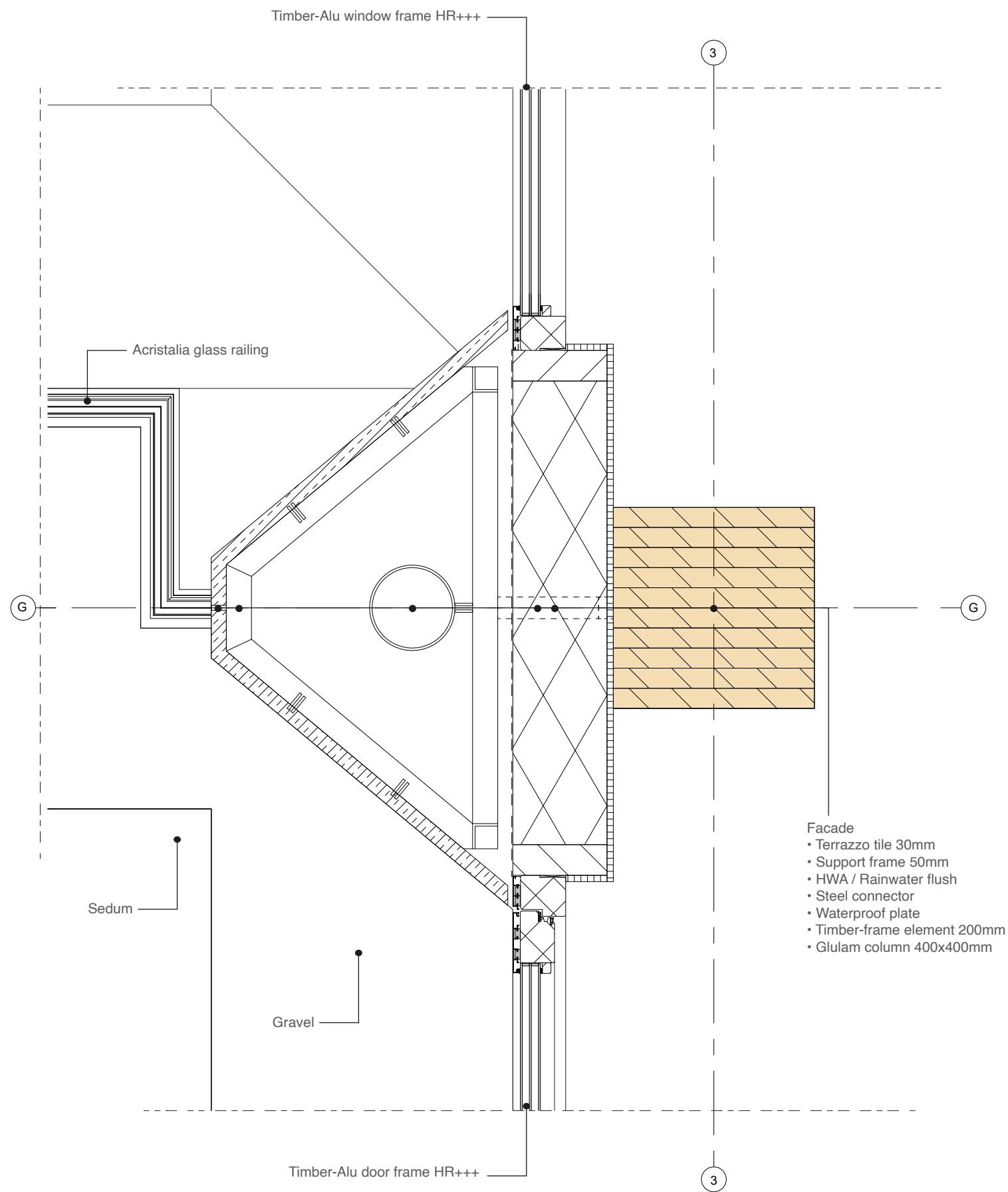
Facade Details

Vertical Details



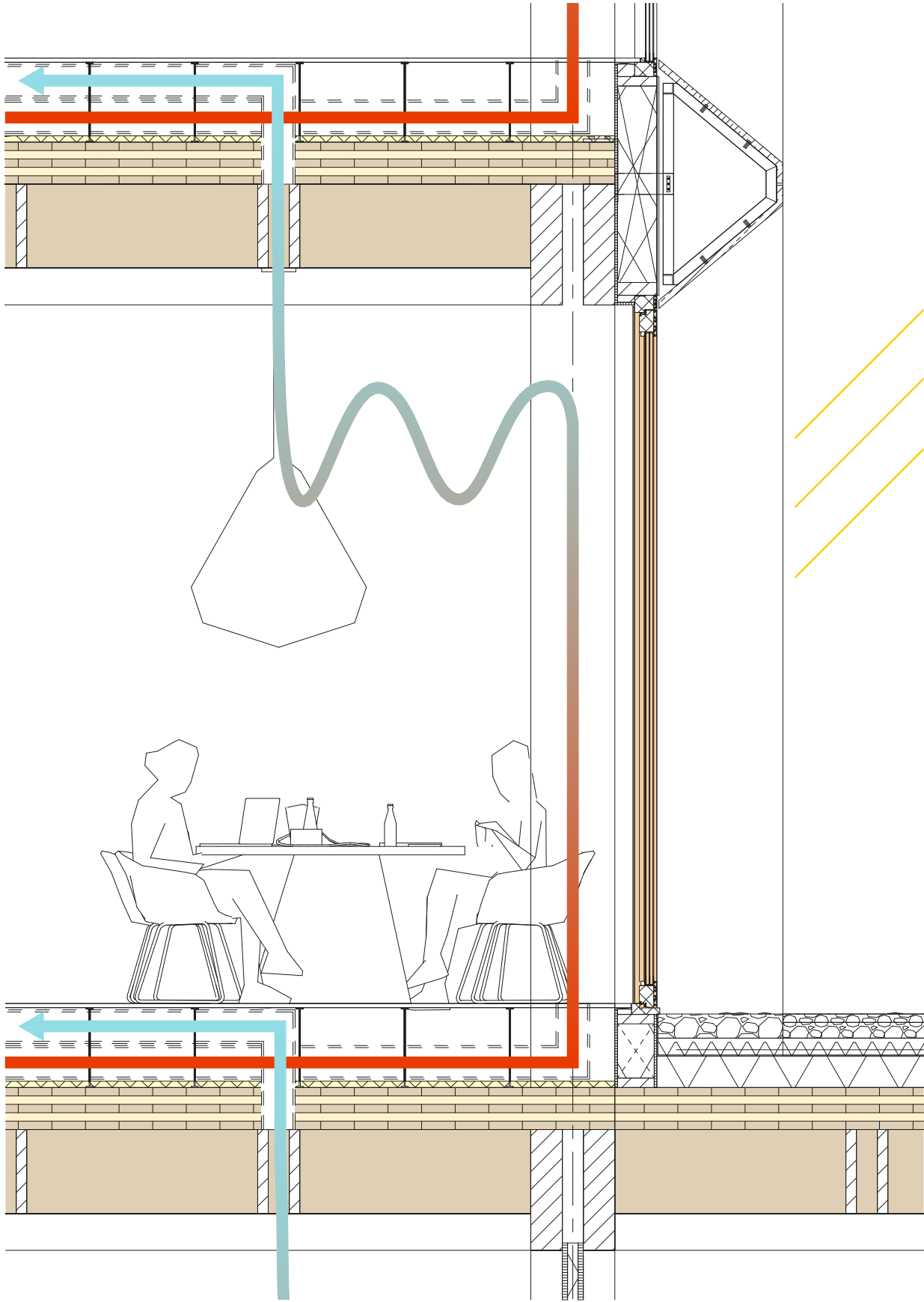
Facade Detail

Horizontal Detail



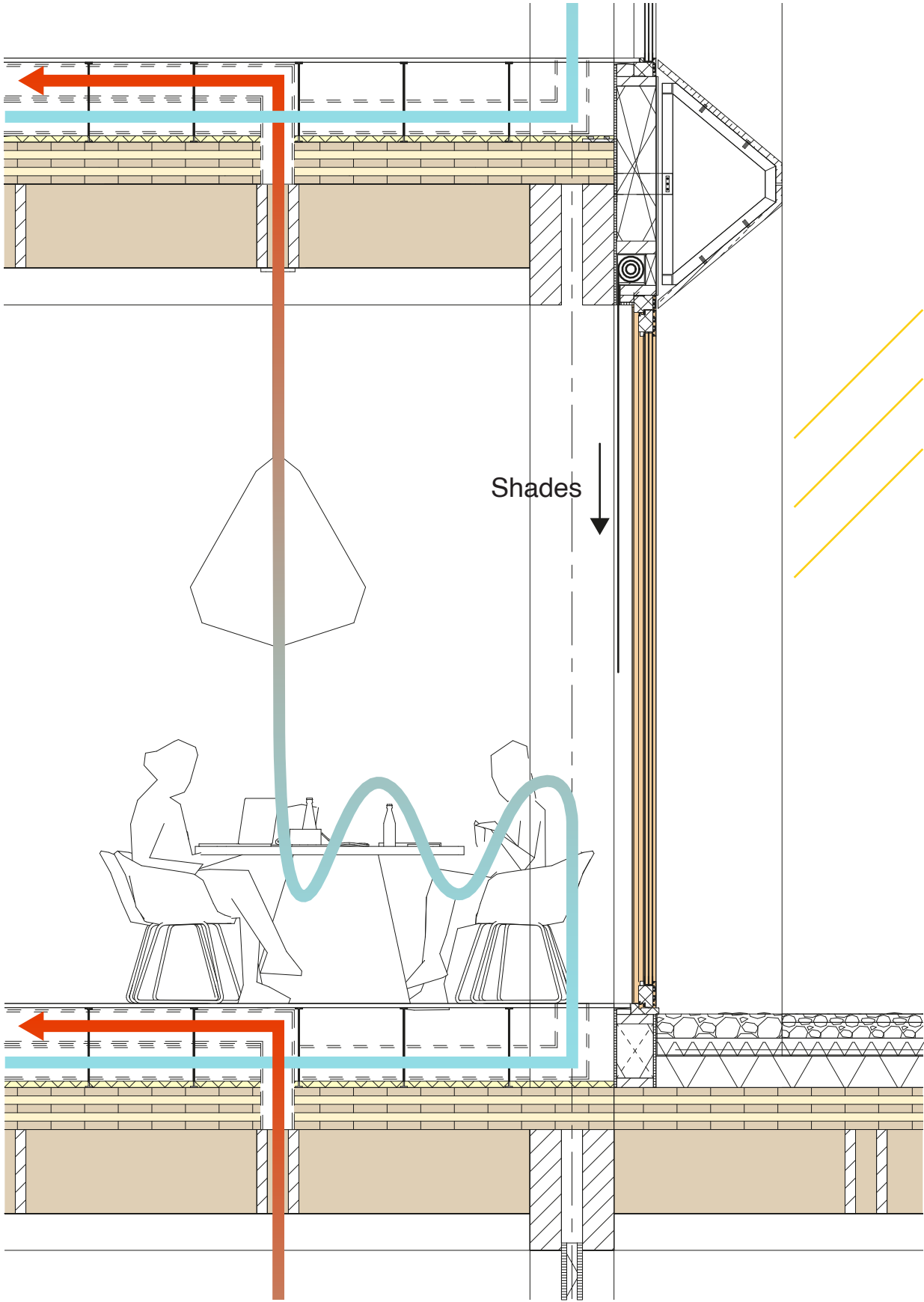
Climate Design

Heating & Ventilation



Winter

Solar radiation



Summer

Solar radiation

Sustainability

Climate Section

