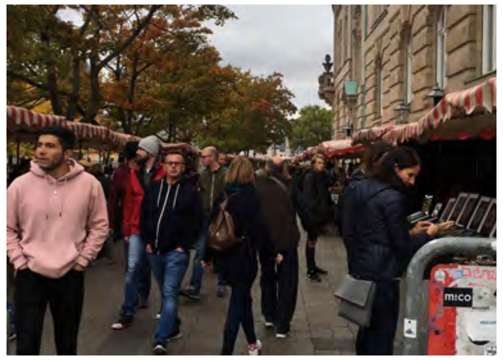
THE LIVING MARKET

DANIEL MEAD & EVGENIA PAPAIAKOVOU

THE CITY - BERLIN

Berlin has stepped into a new era of architectural and urban development after years of ideological and physical division. The prevailing zeitgeist is now one of inclusion and liberalism; a safe haven for all forms of social behaviour and culture. This change is perhaps best embodied by the fall of the Berlin Wall in 1989 and its subsequent appropriation to create the East Side Gallery in 1990.

After the fall of the wall, shops and business premises were abandoned due to the economic dependency of the East on the West. The abundance of vacant buildings has fostered a start up culture in Berlin, allowing individuals and small businesses, particularly in the fashion and art sector, to sell their wares at the very centre of the capital.


1. Market


2. The Altes Museum


3. The Reichstag

THE SITE - TEMPELHOF FIELD

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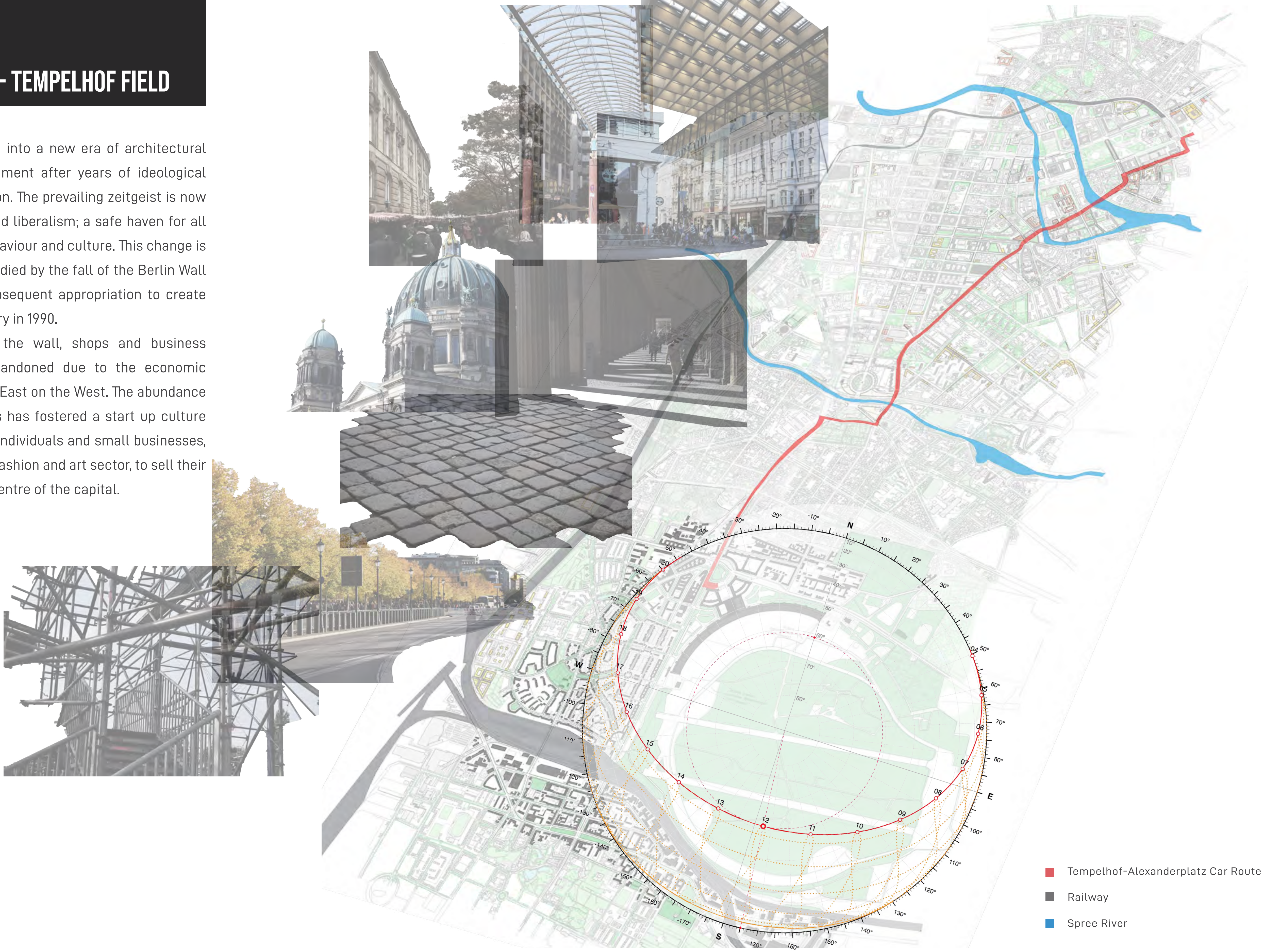


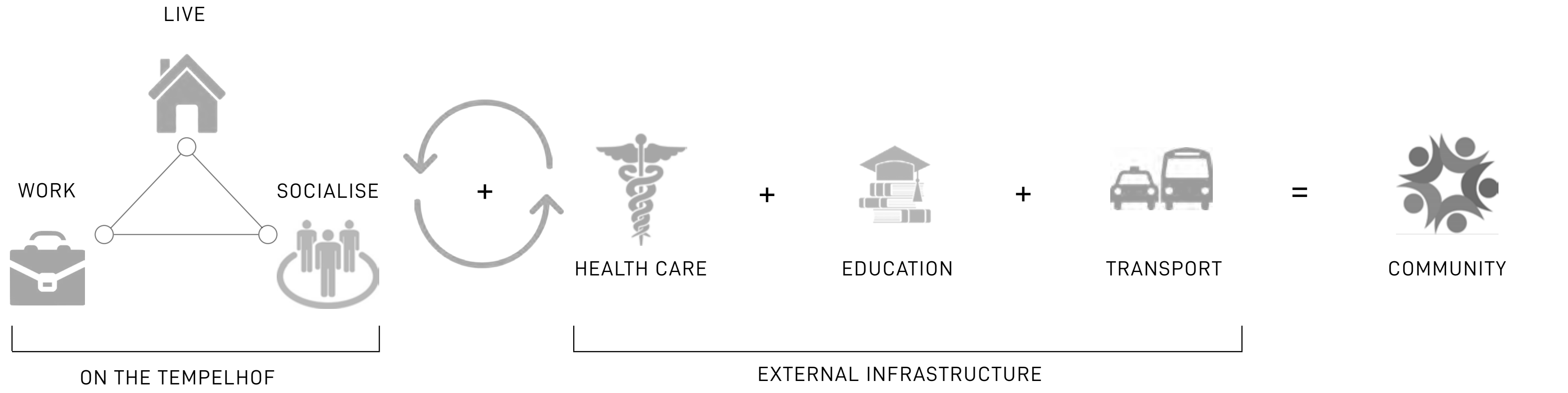
Map of Tempelhof Airport in the context of Berlin

1:10000 @ A1

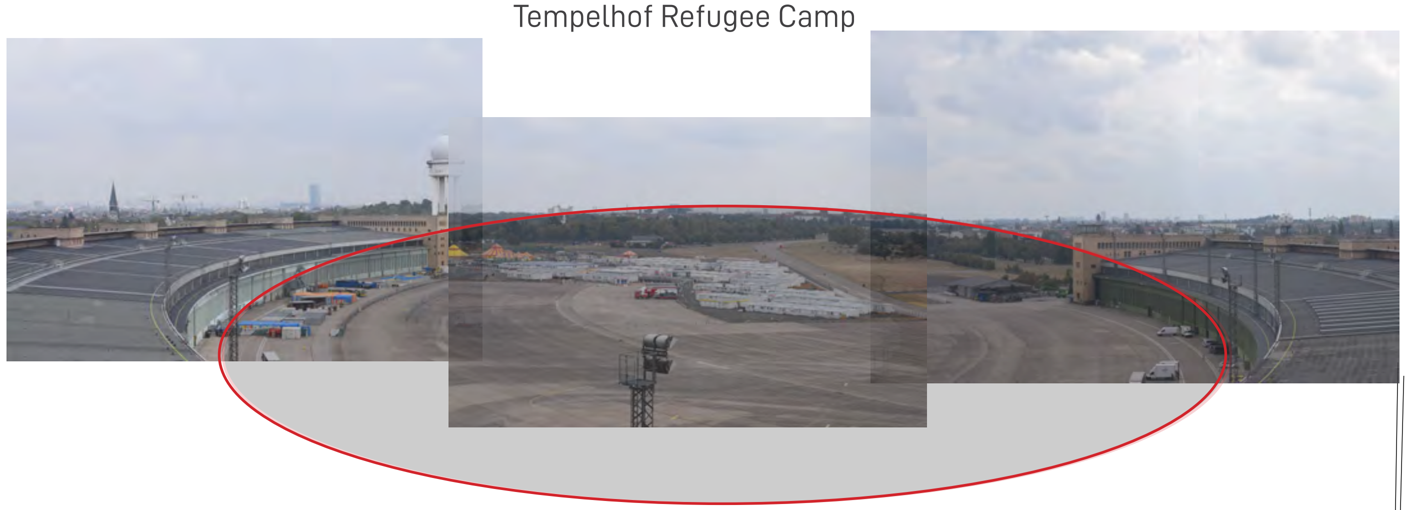
21.06.2017 , 12:00

THE SITE - TEMPELHOF AIRPORT

Considering the airport as part of its immediate surroundings rather than as part of Berlin as a whole, it can be criticised for its suitability as a location to house an 'urban Nomad'.
Whilst the brief encourages the design of a housing scheme, there is more to a community than simply a place to live. It requires infrastructure, communal spaces to interact as well as places of learning and well being which in turn creates a resilient and long lasting community.
Not all of these requirements can be designed for when building on top of Tempelhof airport but when we consider the community on a slightly larger scale, we see that these places are already provided.
It is therefore imperative that there is a symbiosis between the Urban Nomads atop the Tempelhof and the local residents that surround the airport. It is important to the scheme that in order for the Urban Nomads to integrate into Berlin, they must provide goods or services to encourage and foster that exchange.



Tempelhof Refugee Camp



Tempelhof Site Analysis
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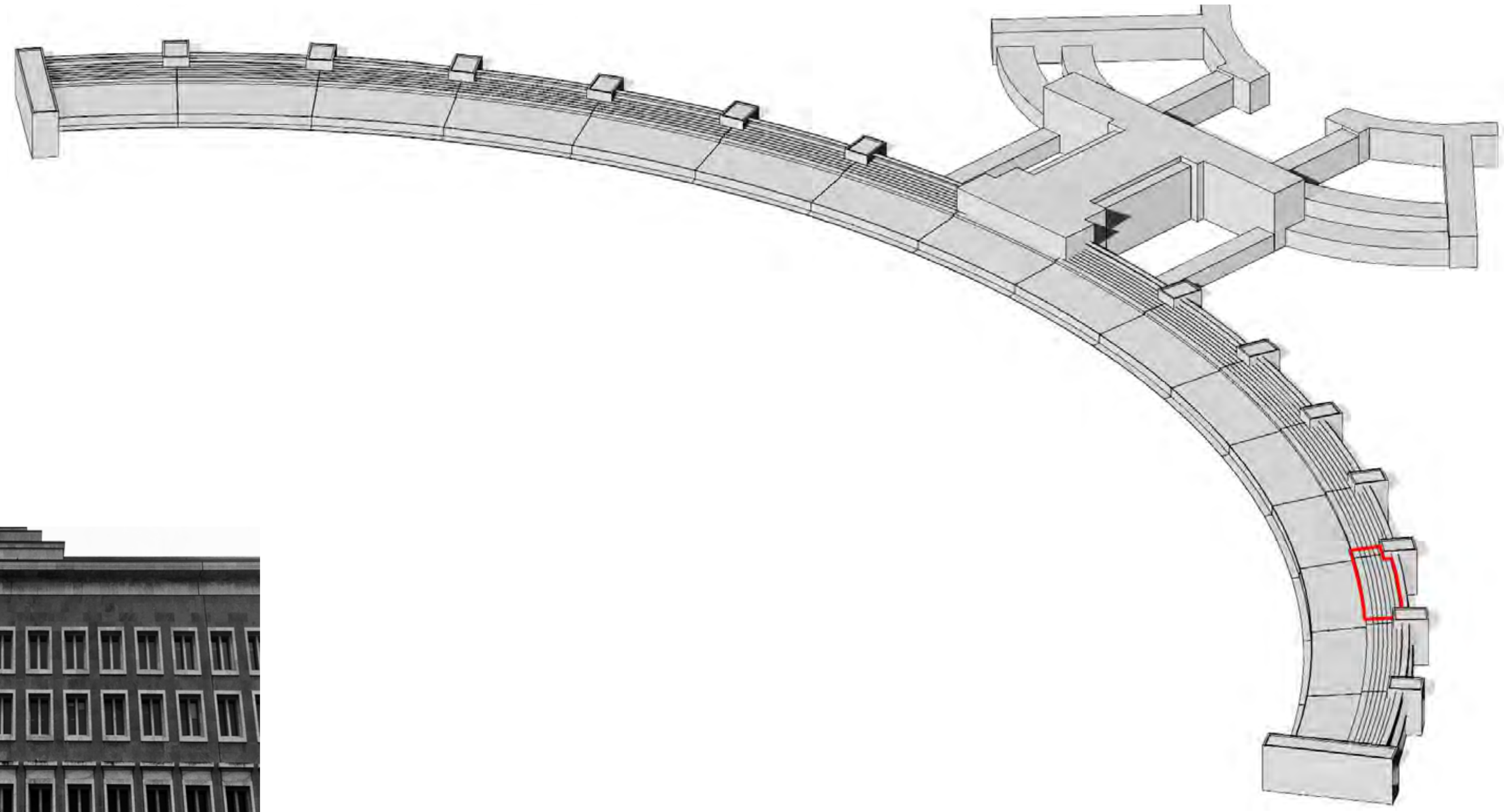
THE TEMPELHOF AIRPORT

The airport is characterised by its 1.2km long canopy that forms a vast arc facing towards the South East under which large hangars housed the planes. It thus benefits from sunlight throughout the day and especially in the mornings.

Each pair undertaking work on top of the Tempelhof was allocated an 80mx20m bay such that as an atelier we would produce a cohesive scheme that stretched the whole 1.2km arc of the building.



Entrances

Homogenic Facade

Exposed Structure

Vertical Element Expression

Radial Repetition

Circulation Cores

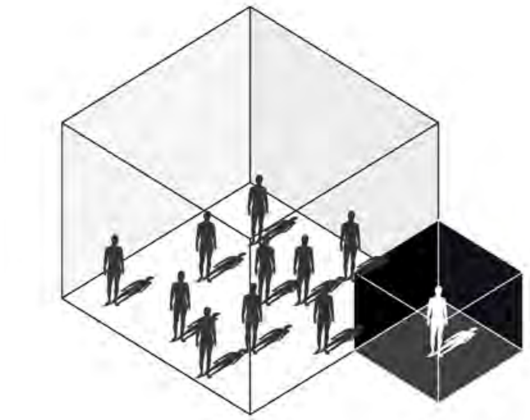
THE JOURNEY

AN EXPLORATION OF SPACES IN THE TEMPELHOF

The Tempelhof tour was incredibly informative not just from a historical standpoint, but also helpful in informing decisions that we would make about our project.

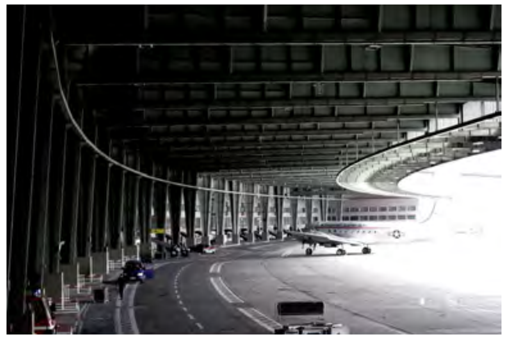
The Tempelhof is a grandiose building characterised by its contrast of large and small spaces. A cramped lift opens up onto the vastness of the airport roof with an unmatched view of Tempelhof field. Underneath the main terminal is a labyrinth of bomb and gas shelters from the War. Next to a maze of dark and secretive offices is an indoor basket ball court. This juxtaposition of space and the feelings it elicits, this build up and release of pressure, is something we are eager to explore.

the repeated monolithic columns are reminiscent not of an airport but of a Greco-Roman temple. The positioning of the beams perpendicular to the lengths of the rooms and the homogeneity of windows and doors serve to delineate and separate these large spaces. These elements, especially the dichotomy of old and new is incredibly unique to the Tempelhof and something we aim to emulate in our project.

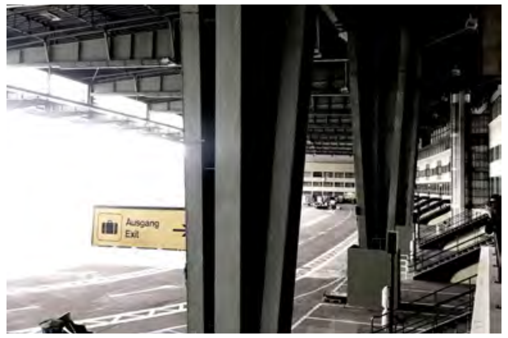
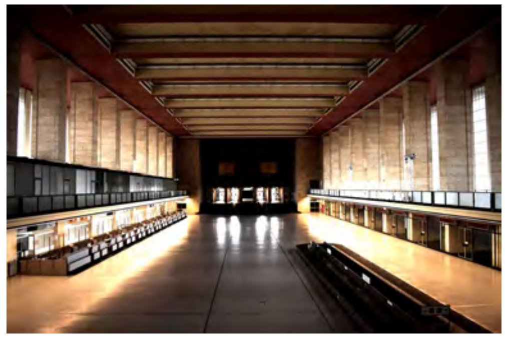


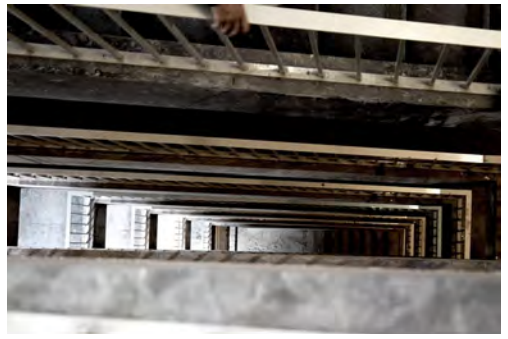
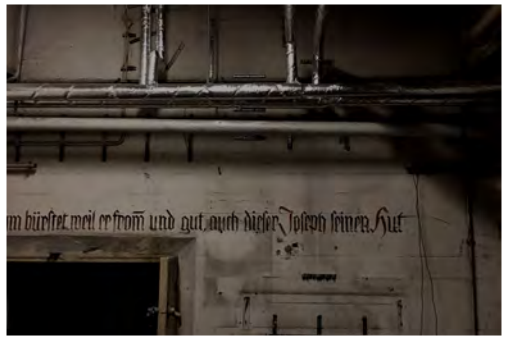
Juxtaposition of small and large spaces

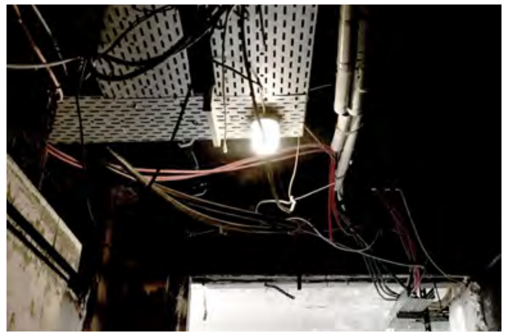






THE URBAN NOMAD

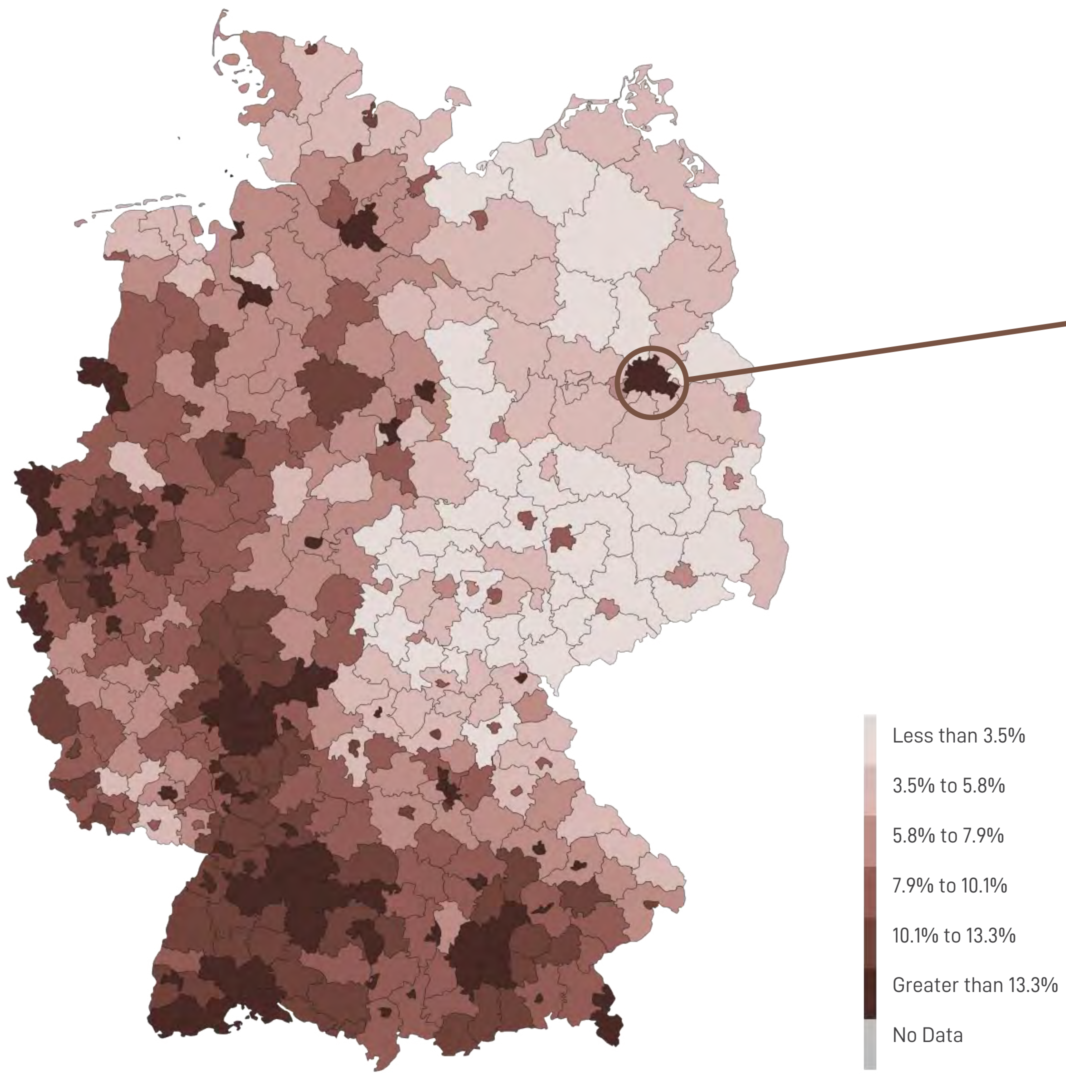
DEFINING A USER IN RESPONSE TO RESEARCH UNDERTAKEN IN BERLIN

The tempelhof field is currently being used to house 1900 refugees chiefly who have fled conflicts in Syria, Iraq and Afghanistan. Germany as a whole has had a long standing reputation as having liberal immigration law and in the last eight years studies show that the number of people from outside Germany seeking protection has increased by more than one million. We are therefore aim to expand and continue this sentiment of inclusivity by providing better living

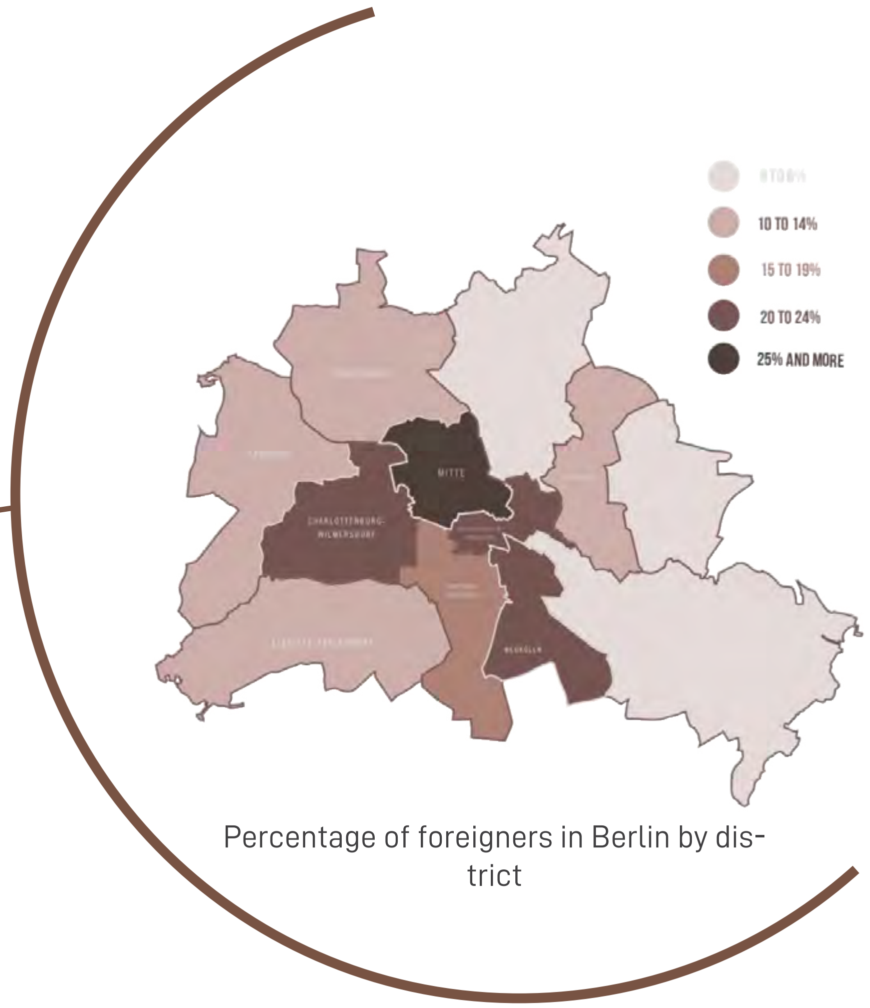
Population of Germany: 82.52 Million

Process of Gaining Asylum & Residency in Germany:

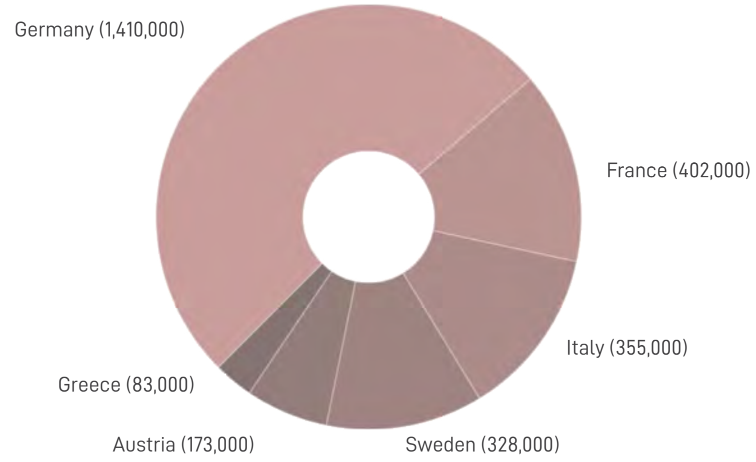
- Recognition of refugee status
- Recognition of acts, grounds and agents of persecu-tion
- Collection and transmission of personal data
- Filing an application for asylum
- Gaining residency for various reasons
- education, economic status, activity, family reasons, international laws
- Completion of integration course



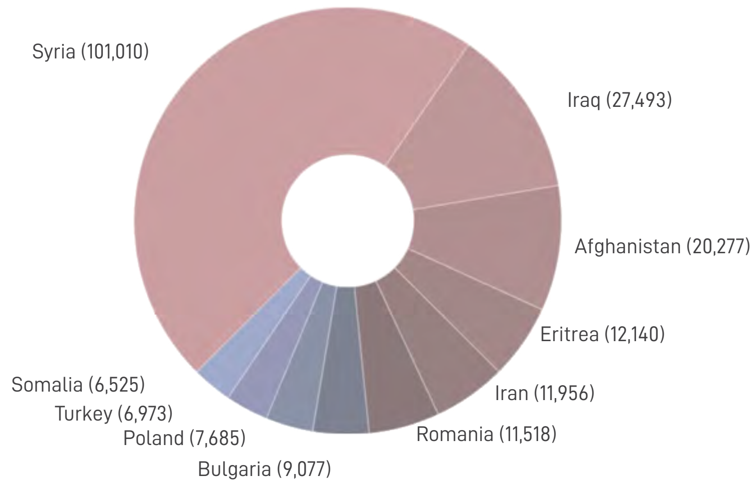
Percentage of foreigners in Germany by region (as of 31/12/2016)



Percentage of foreigners in Berlin by dis-trict



Number of asylum seekers and people entitled to protection in selected EU countries (2017)

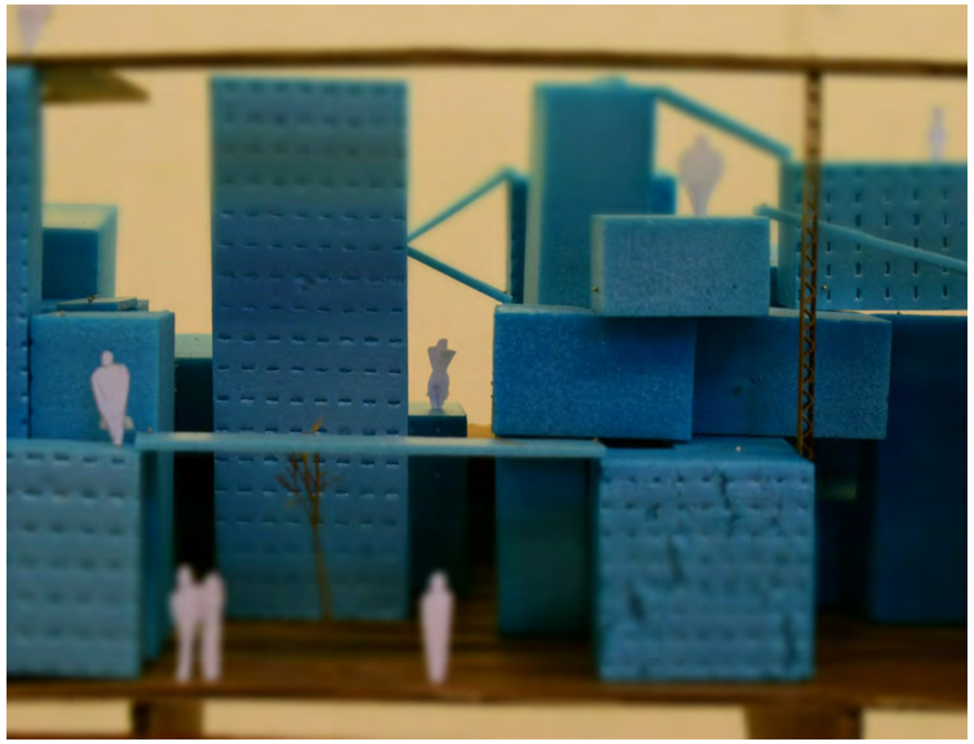


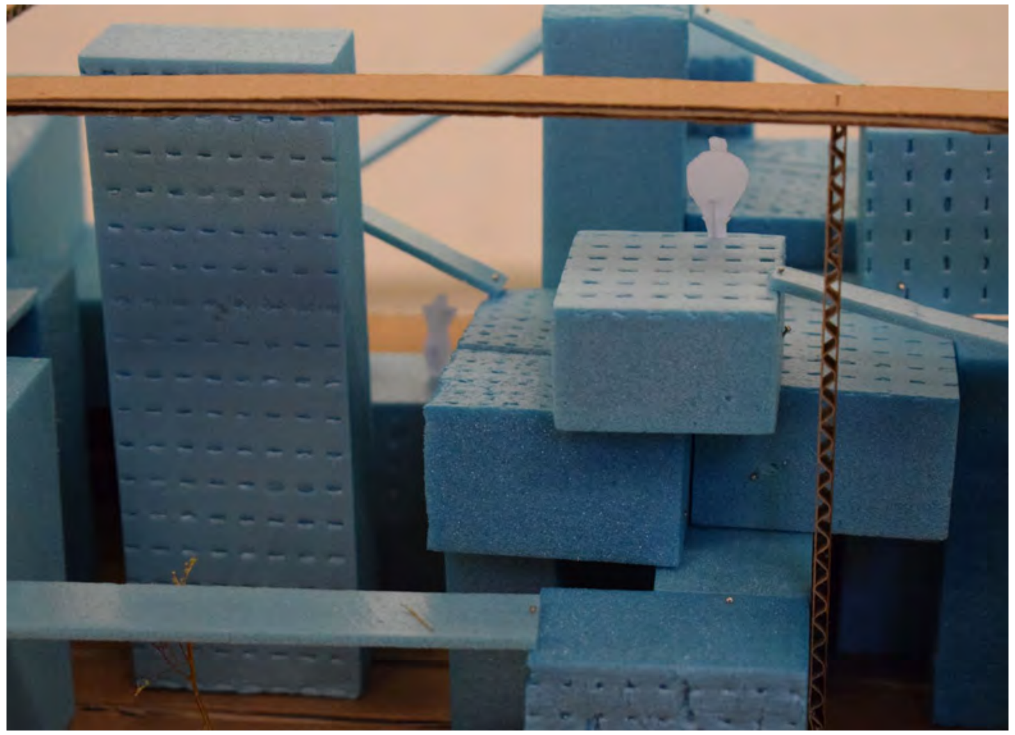
Number of new participants in integration courses in Germany, by country of origin (2017)

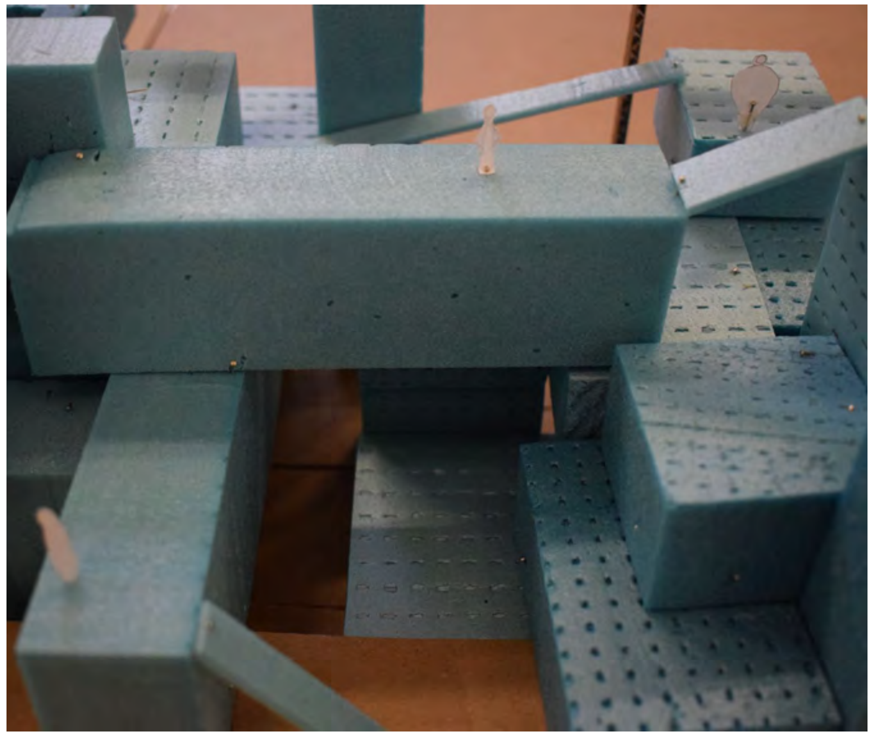
ANCB

INTERNATIONAL COLLABORATION AT THE AEDES METROPOLITAN LABORATORY

The Aedes laboratory was the location for our week long collaborative workshop in Berlin. The MSA formed groups with students from the University Diego Portales (UDP), a school in Chile, and TU Braunschweig in Germany.
This collaboration led to a broad range of different ideas that we had to work through as a team. Engaging with people from other countries posed some language problems but it did, however, encourage us to explain our ideas architecturally, through diagrams and models, rather than verbally.
As a group, we ultimately decided on the creation of a combined market and housing scheme, based on barter and exchange, believing this would best feed in to other projects and create a relationship between its inhabitants and wider society. It would also give refugees entering the country a place to live and the opportunity for employment as a stall owner in the market.







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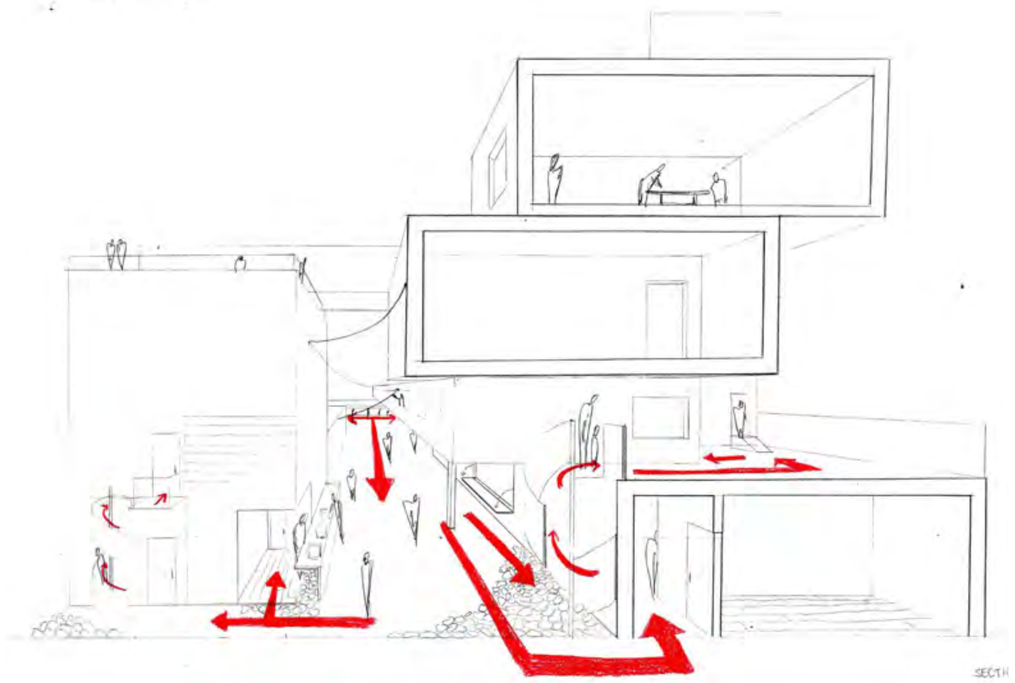
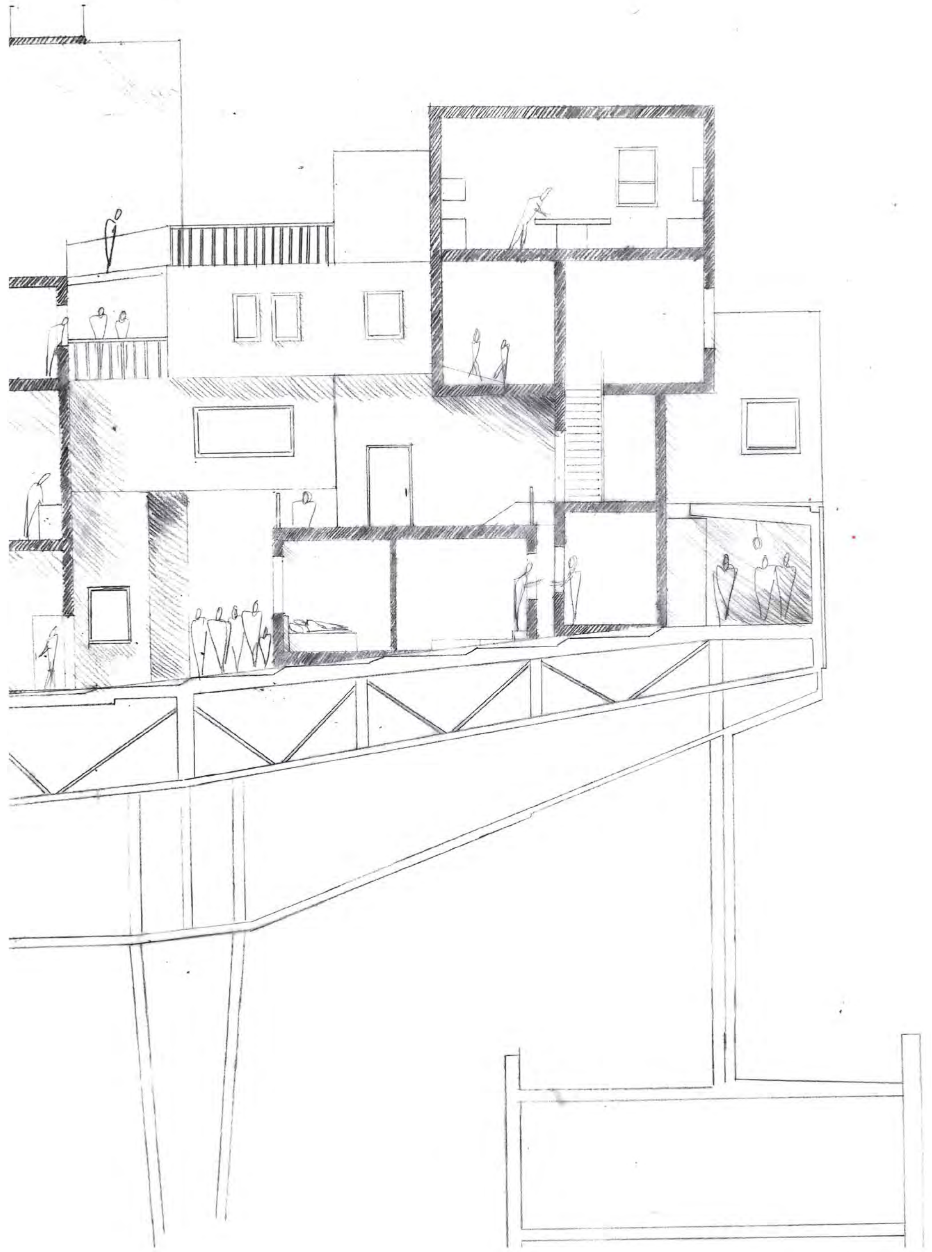
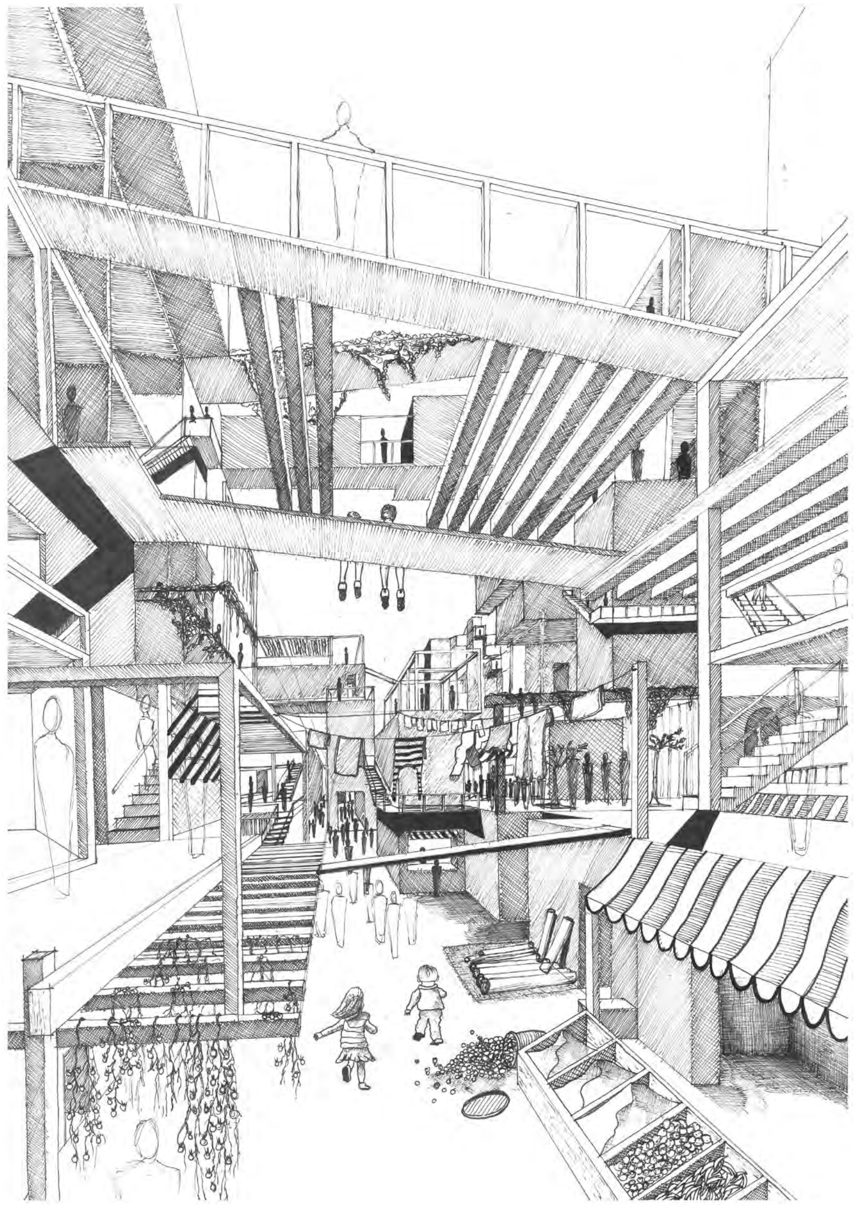
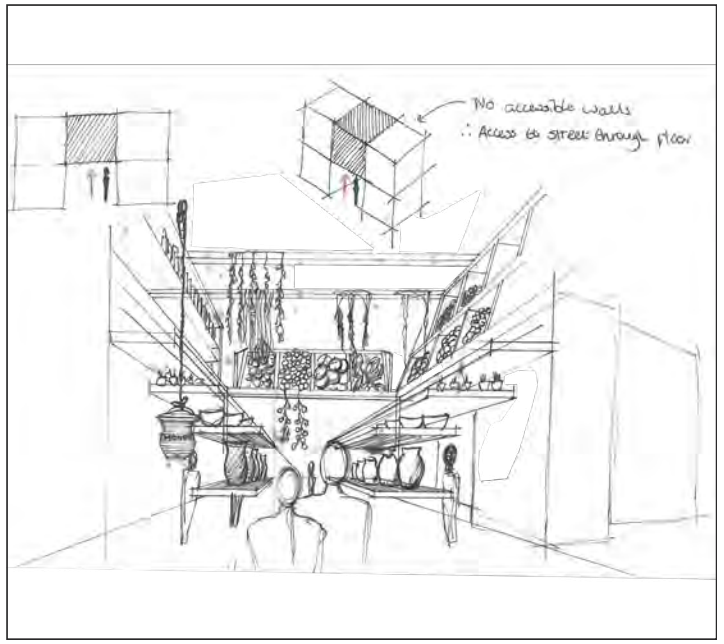
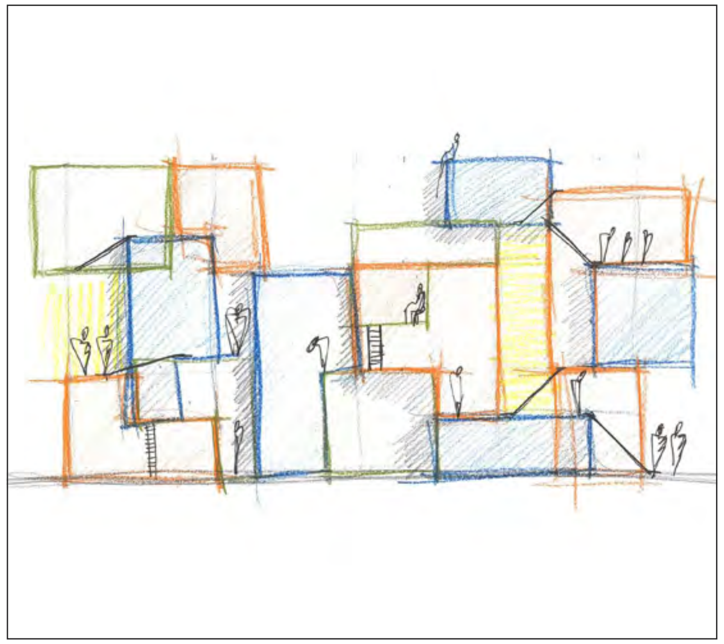




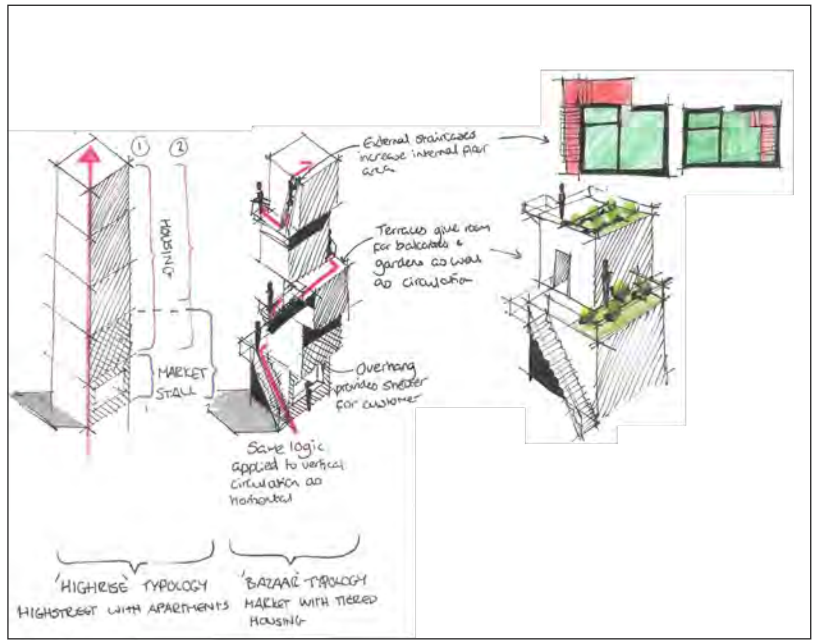




The Marketscape

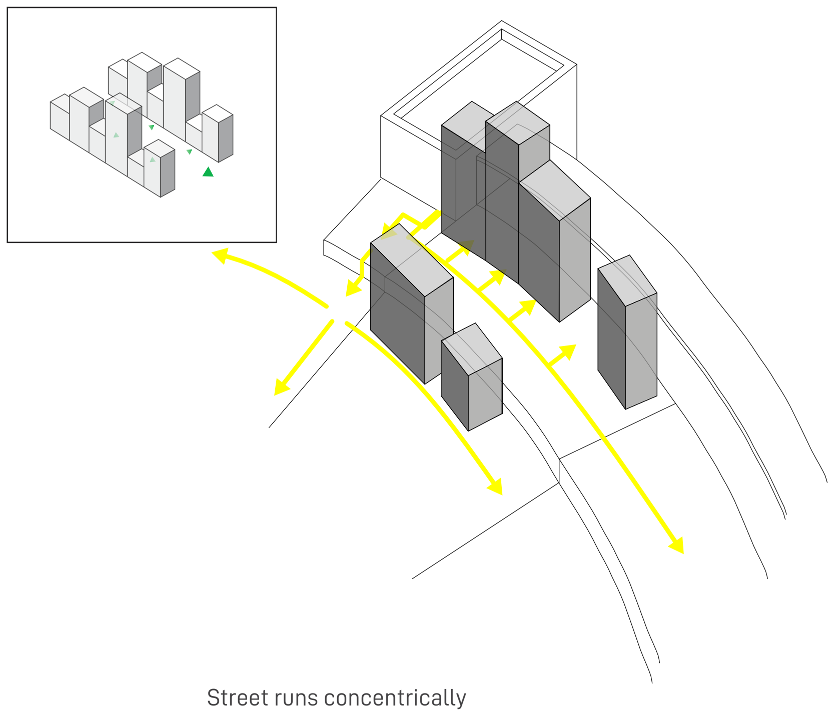


Indicative Section

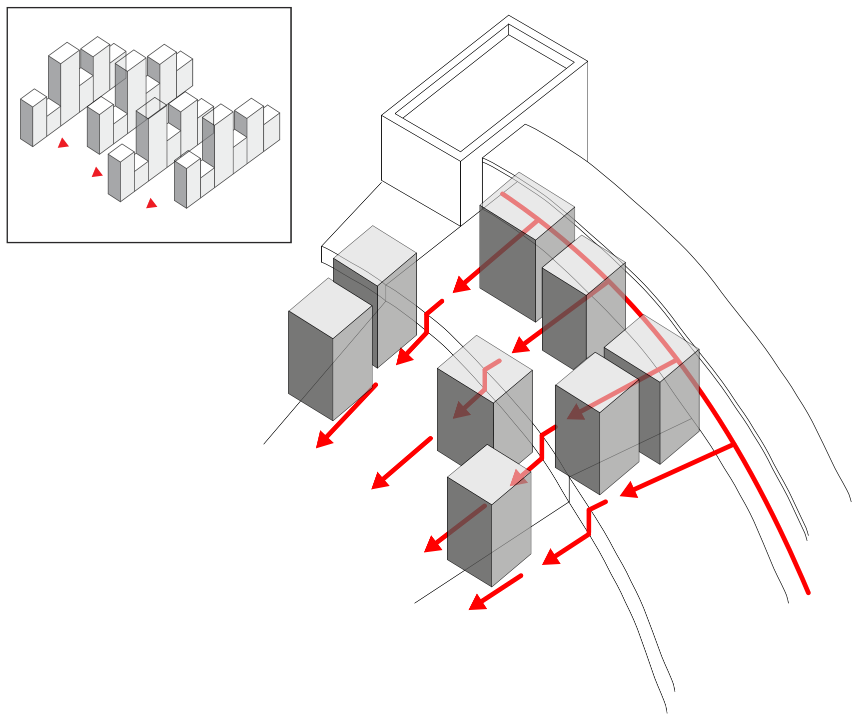


SITE ANALYSIS

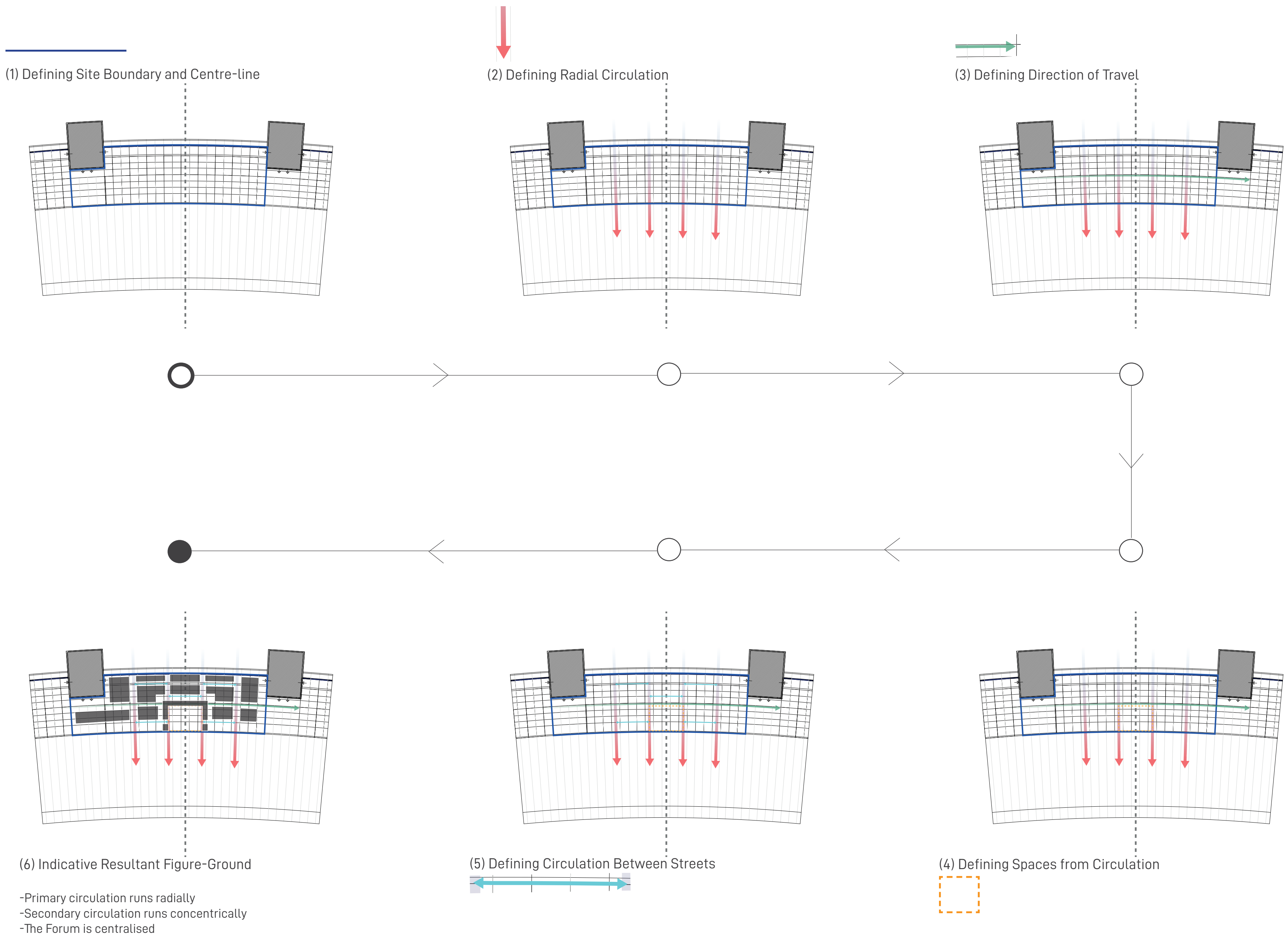
DEFINING THE MARKET STREET CIRCULATION THROUGH SITE ANALYSIS



Street runs concentrically

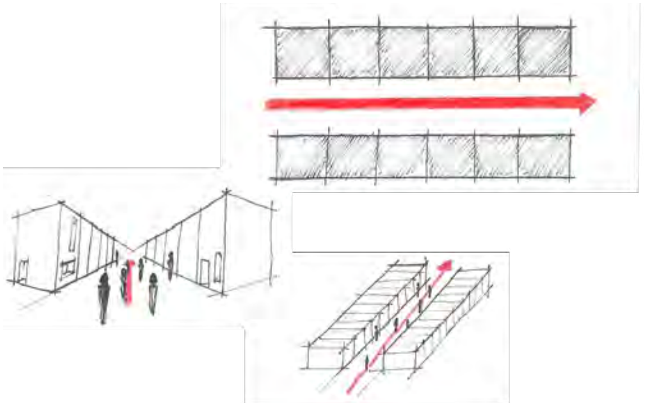


Streets run radially



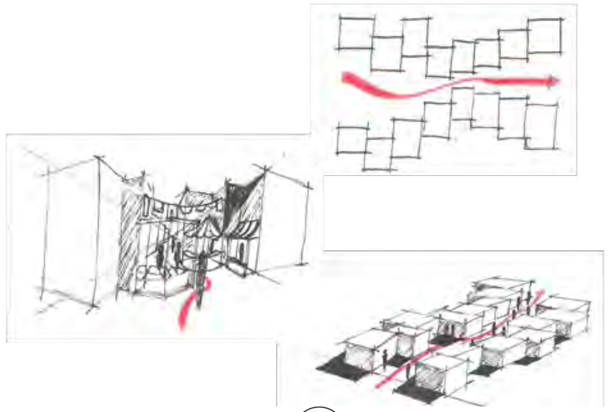
TYPOLOGICAL CIRCULATION

HORIZONTAL : EXPLORING VARIOUS MEANS OF PROGRAMME AND CIRCULATION THROUGH THE STREET SCAPE



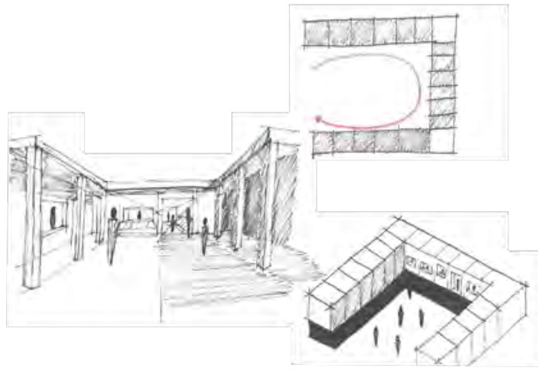
Traditional Circulation (along the highstreet)

-Terrace blocks sunlight
-Too clear a distinction between public and private space



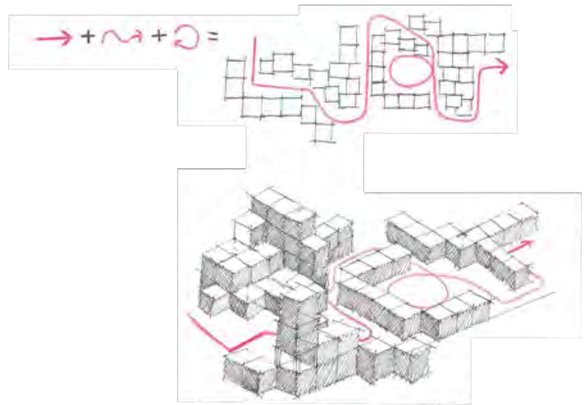
Offset Circulation (through the market/bazaar/medina)

-Interplay of form encourages exchange
-Too rigid

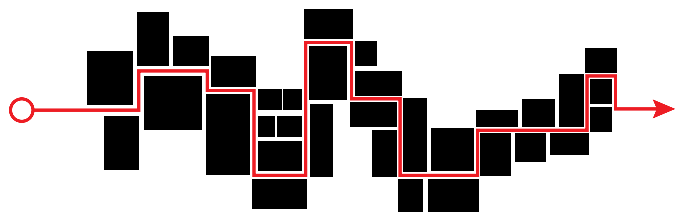


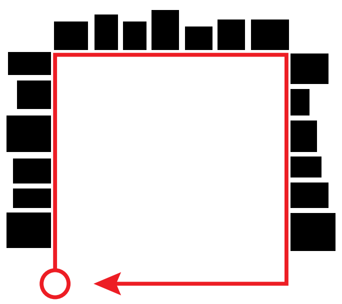
Circular Circulation (in the forum/kasbah)

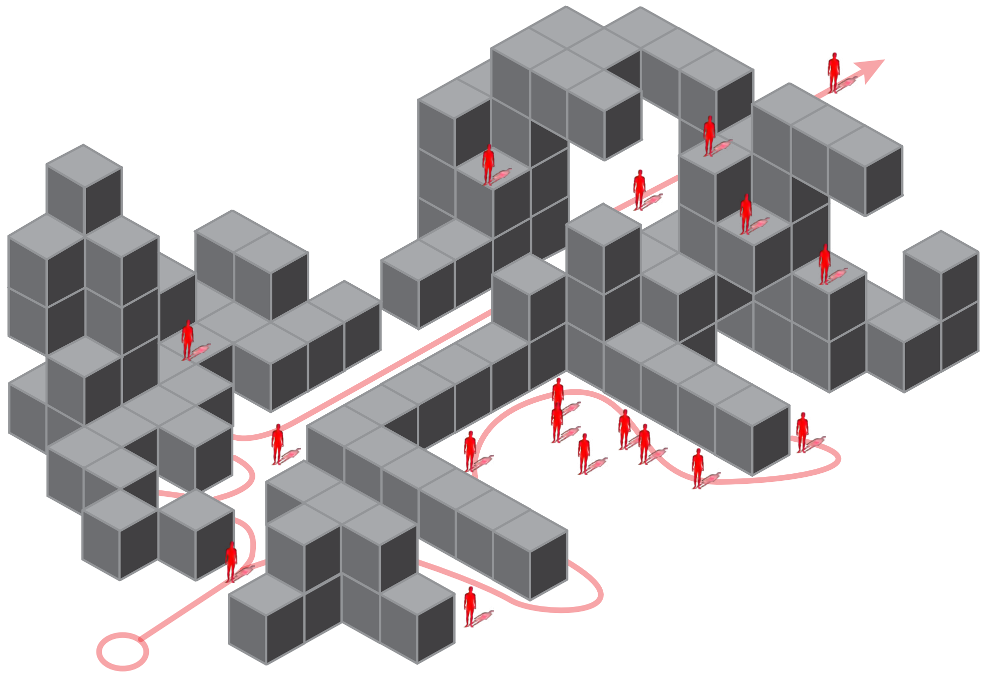
-Provides a centre of exchange
-Has degrees of privacy



Combined Circulation through Tempelhof Market

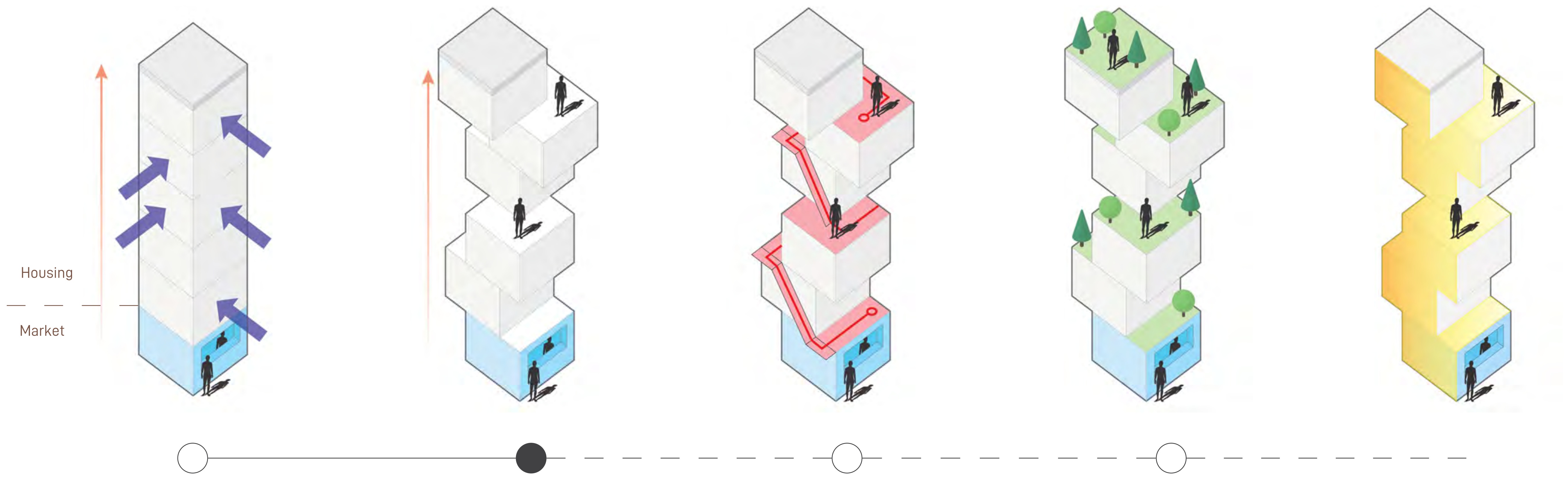






TYPOLOGICAL CIRCULATION

VERTICAL : EXPLORING VARIOUS MEANS OF PROGRAMME AND CIRCULATION THROUGH THE STREET SCAPE



Traditional Vertical Circulation(highrise)

Highstreet with apartment block

Offset Vertical Circulation(bazaar)

Market stall with tiered housing

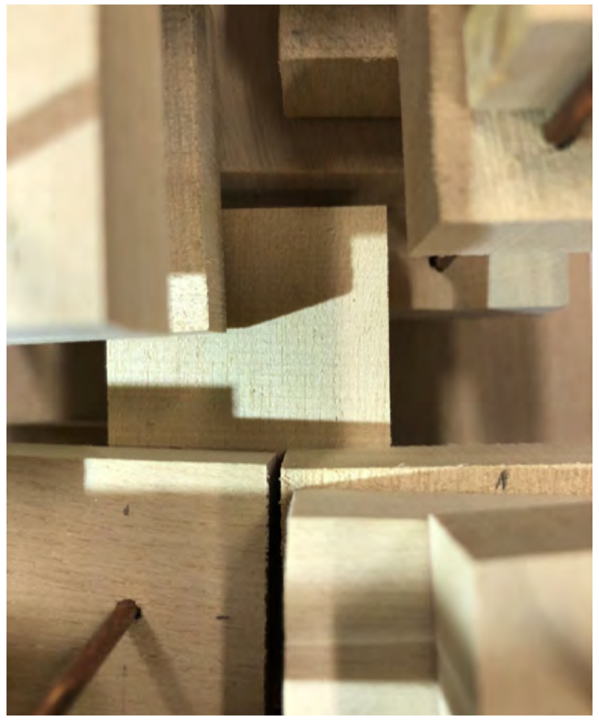
Offsetting the blocks allow for circulation such as staircases and corridors to wrap externally around the building.

Offsetting the blocks creates terraces which can be used as green spaces.

Offsetting the blocks allows a greater surface area of the building to receive sunlight.

CONCEPTUAL MODELS

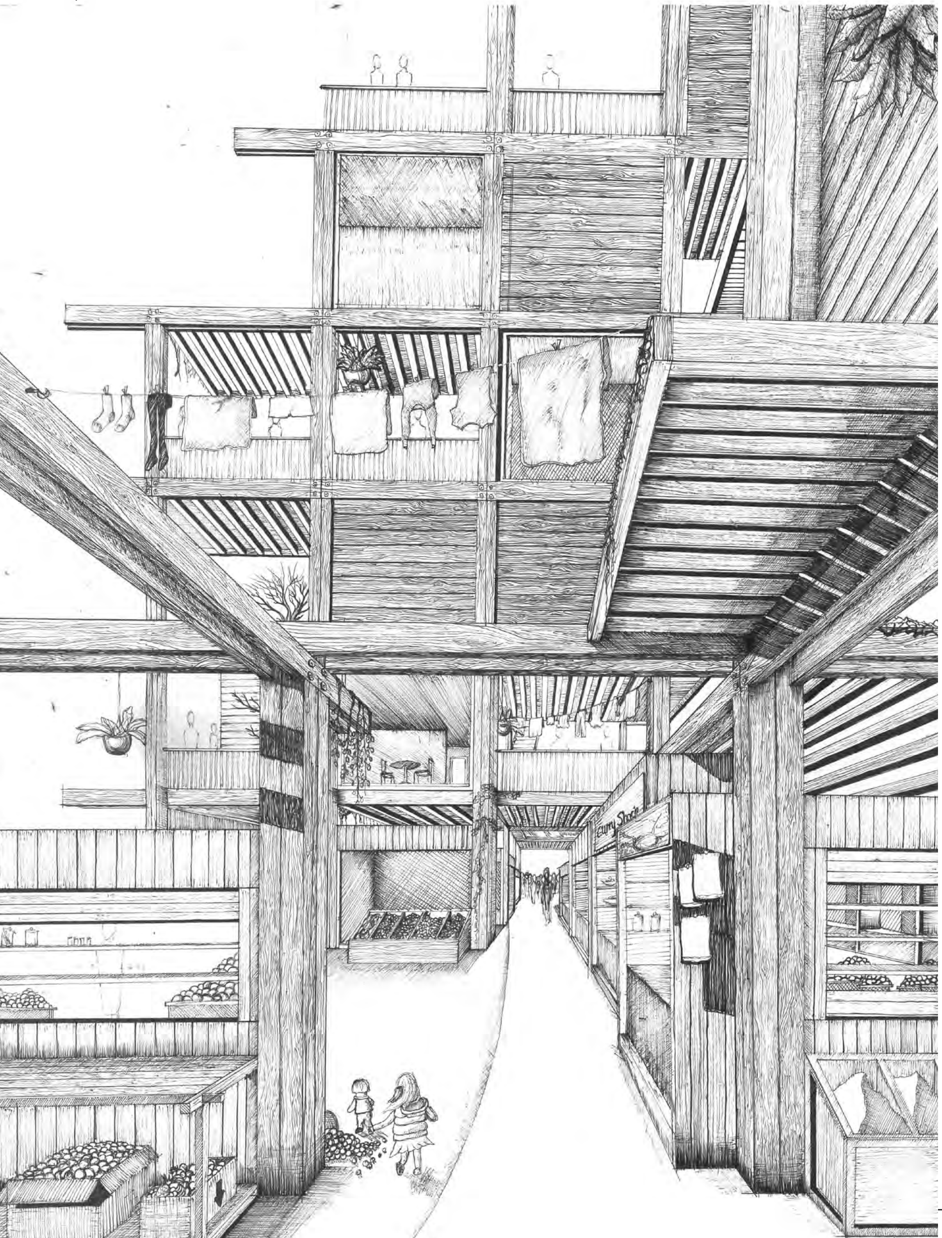
**EXPLORING VOLUMES, OVERLAPPING BLOCKS,
AND THE CREATION OF LIGHT AND DARK SPACES**

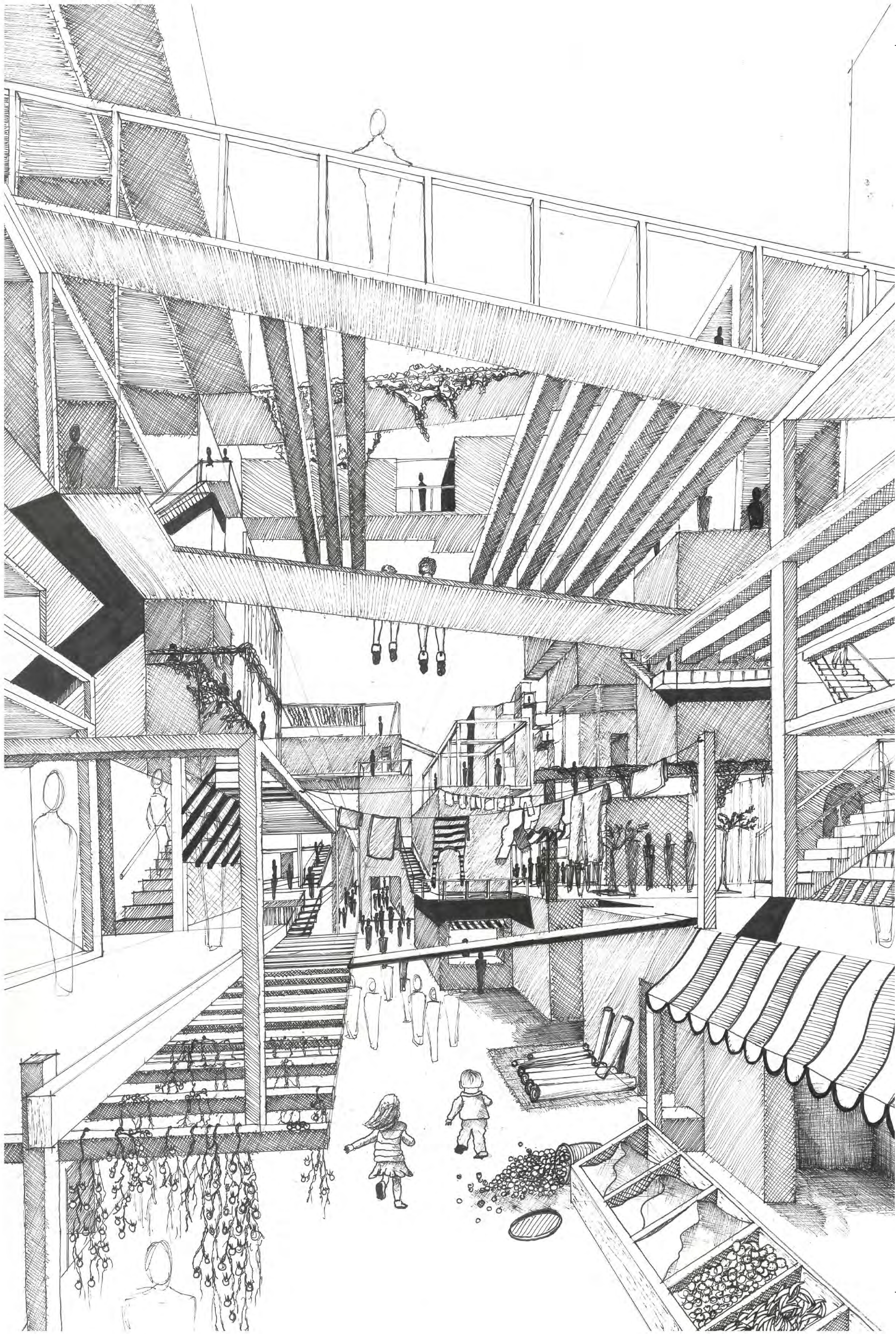


ORDERED CHAOS

ILLUSTRATING FORM CREATED BY CONSIDERATION OF CIRCULATION

By studying traditional circulation both horizontally and vertically and adapting their suitability to our scheme on top of the Tempelhof we have eschewed linearity in favour of a labyrinthine maze. Much like a traditional market, there is a sense of organised chaos (see right-hand drawing) that is created by moving away from a grid like structure. Walking amongst the market stalls is not a consistent process as it is on a highstreet, you are forced to speed up and to slow down, into larges spaces and small spaces, into dark spaces and light spaces.

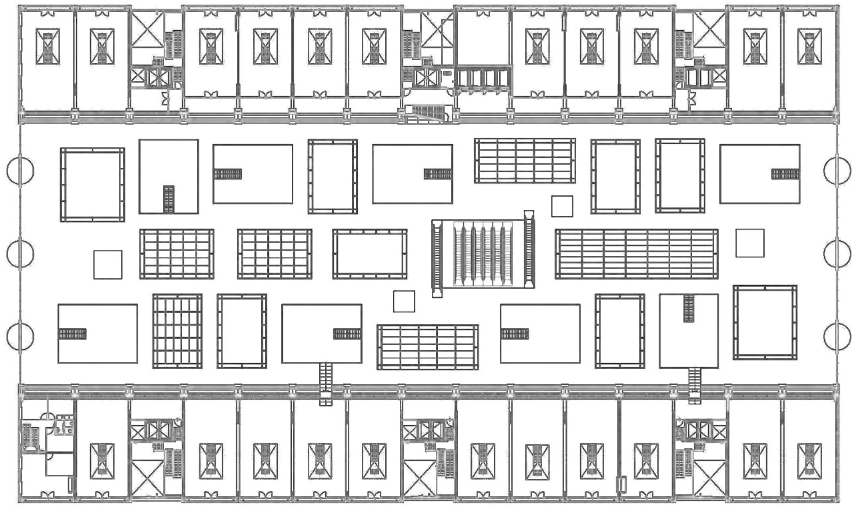




PRECEDENT

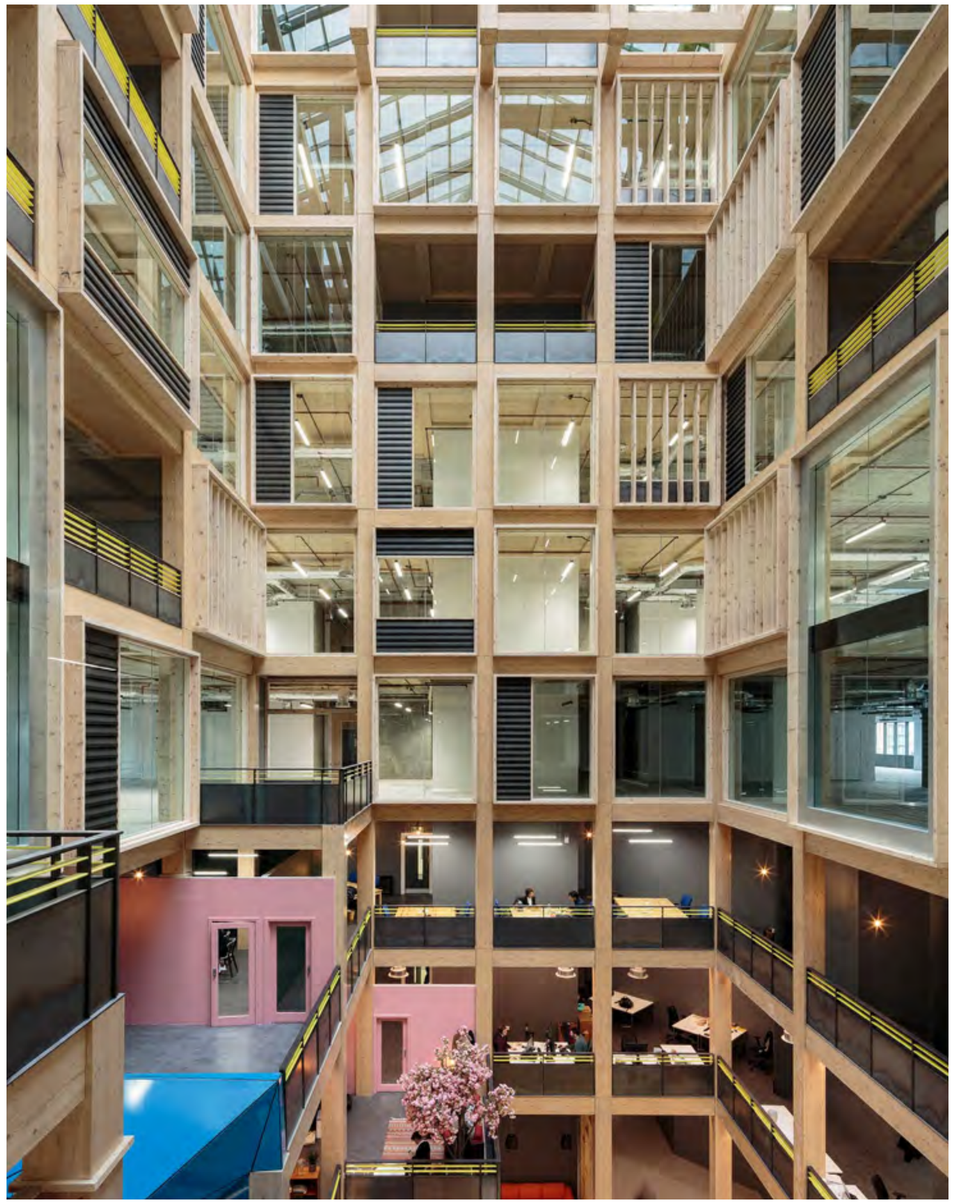
MARKTHAL - ROTTERDAM
MVRDV

The Markthal is the Netherlands first covered market and apartment block simultaneously. It is not only a cultural landmark that attracts visitors from across the world, but a centralised neighbourhood in and of itself. Making manifest this combination of marketplace and housing is essential to the development of our scheme.



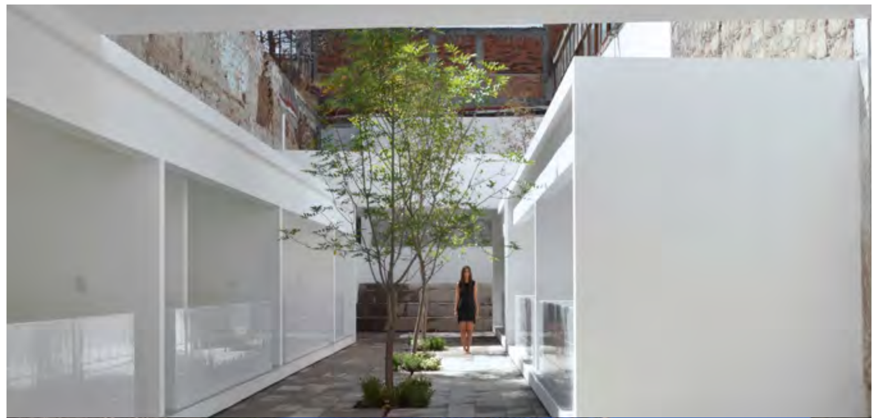
IMPORT BUILDING - LONDON
STUDIO RHE

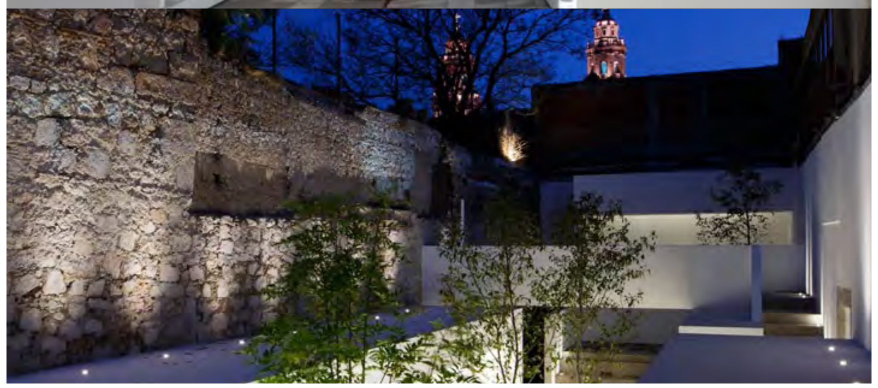
Studio RHE have created a ten storey atrium inside an office building in London complete with bars, cafes and terraces. It uses glulam and cross laminated timber, adhering to a strict rectilinear grid. The use of engineered wood is key to our project not only in terms of materiality but in its structural integrity.



FOOD MARKET - MORELIA
HW STUDIO

HW Studio have created a food market composed of white volumes in the heart of the historic town of Morelia. The sensitivity and simplicity of the design marries new and old without becoming dominant. The articulation of volumes perpendicular to the stalls and the street give it balance.





PRECEDENT

MARKTHAL - ROTTERDAM
MVRDV

Comme des Garcons recently opened its fourth Dover Street Market in Singapore, the interior designed by the fashion designer owner, Rei Kawakubo. The materiality of the indoor market is most pertinent to our scheme; the patchwork array of brightly coloured wood and corrugated metal engender a lively atmosphere.

LA BOQUERIA
BARCELONA

La Boqueria is a large food market in Ciudad Vieja in Barcelona. Originally an open air market for hundreds of years, a huge metal structure was built around it in 1853. The array of fresh food, all brightly coloured, is essential to a traditional market and an element we would like to carry through to the modern day.

THE GRAND BAZAAR
ISTANBUL

The Grand Bazaar is one of the oldest and largest covered markets in the world, attracting 90 million visitors annually. The bazaar is arranged in columns and bays, and a vaulted ceiling with rectangular windows. Until the 20th century, there were no shops in the bazaar and each vendor was alotted no more than 30 square feet.

CONCEPT

The market as place

Exploring space, light and materiality through photo-collaging

Exploring space, light and mixed program of the living market through photo-collaging

MARKET RESEARCH

EXPLORING THE PRACTICALITIES OF A COVERED MARKET USING THE ARNDALE FOOD MARKET

STORE FRONT WIDTH:
-Front servery and cash register
-Hob
-Fridge
-Sink
-Preparation Space

STORE FRONT WIDTH:
-Front serving bar for hot food
-Full height fridge
-Microwave
-Hob & oven
-Self contained kitchen behind stall

-Fruit and veg neatly arranged
-Brightly coloured
-Produce displayed outside store front to entice customers

STORE FRONT WIDTH:
-Fridge
-Microwave
-Hob
-Sink
-Preparation Space
-Front serving bar for hot food

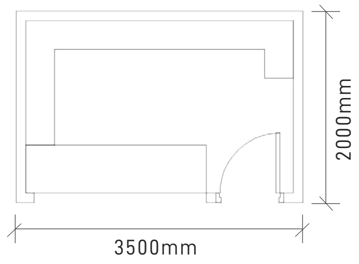
STORE FRONT WIDTH:
-Front servery and cash register
-Hob
-Fridge
-Sink
-Preparation Space

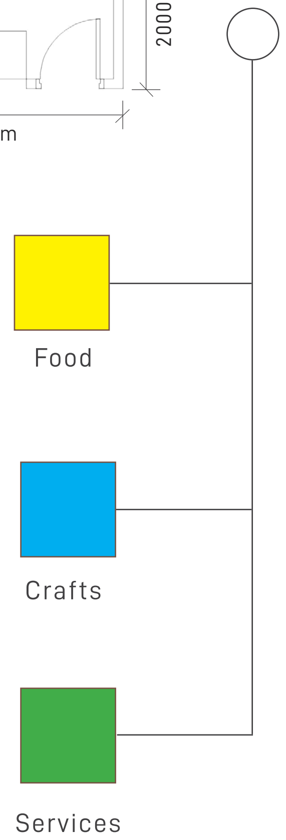
STORE FRONT WIDTH:
-2 Fridges
-2 Grills
-1 Sink
-Front display
-Preparation Space

STORE FRONT WIDTH:
-Front servery and cash register
-Hob
-Fridge
-Sink
-Preparation Space

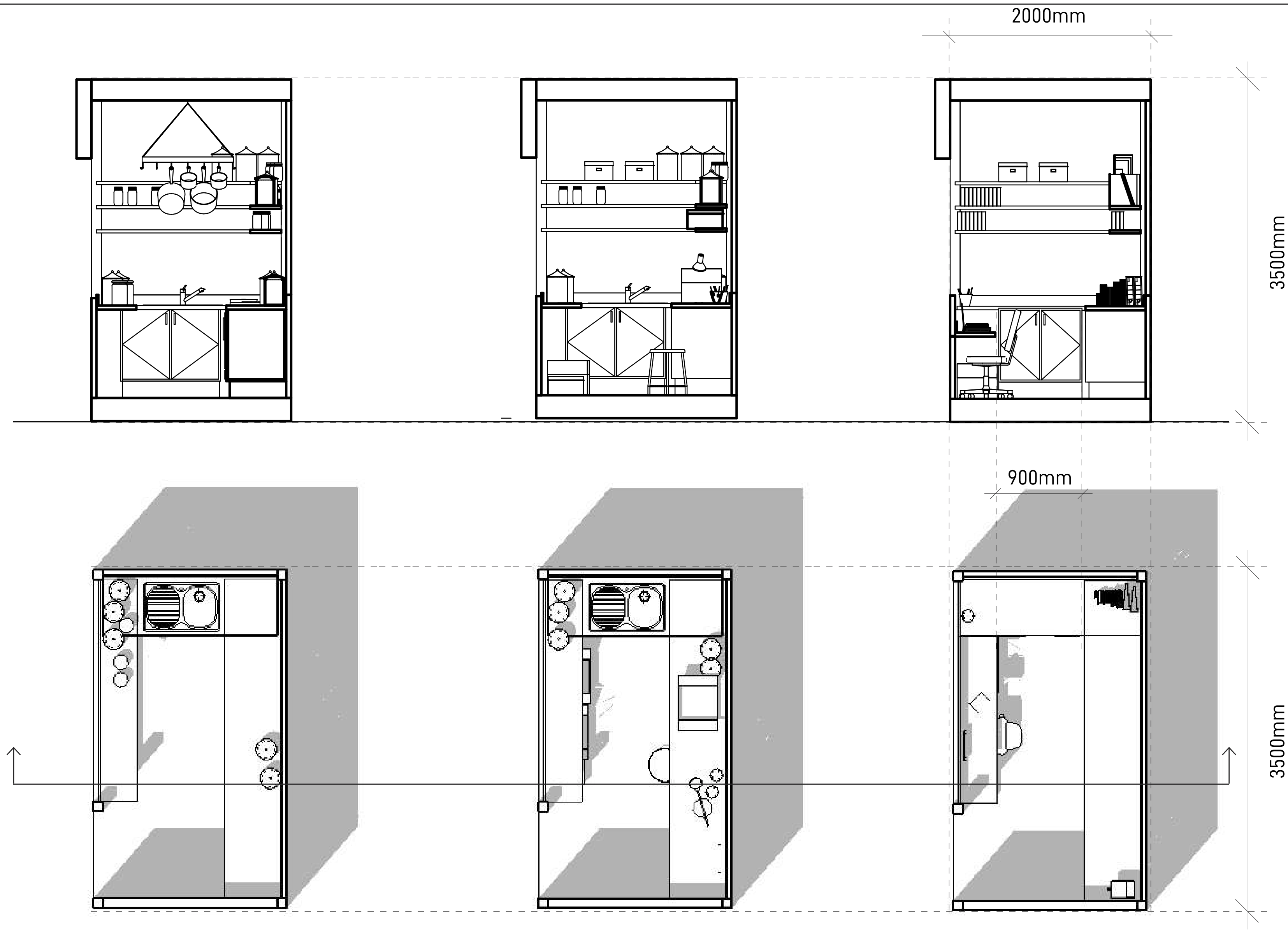
THE MARKET STALL

DEFINING THE MARKET PARADIGM BY SPECIFYING TYPOLOGIES



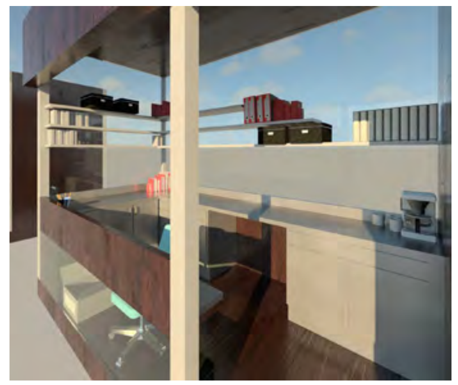


Market Stall Typologies



Food

Craft



Services

Illustration of nomadic clustering between stall owners

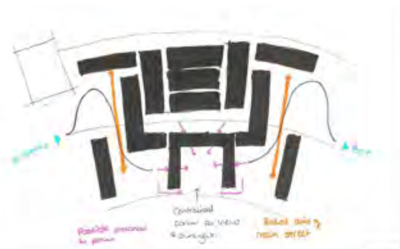


Illustration of urban plan according to site constraints

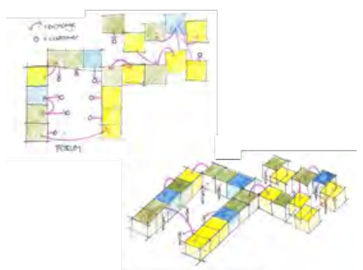
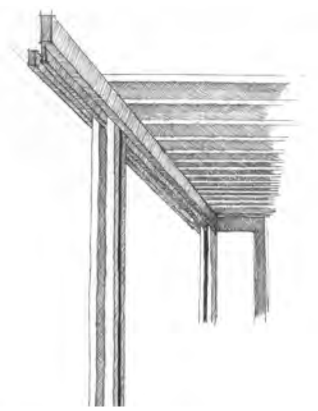
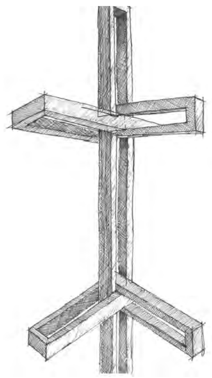


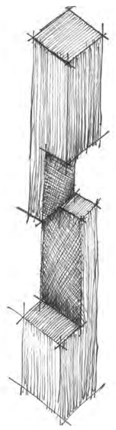
Illustration of exchange between market stalls

STRUCTURE

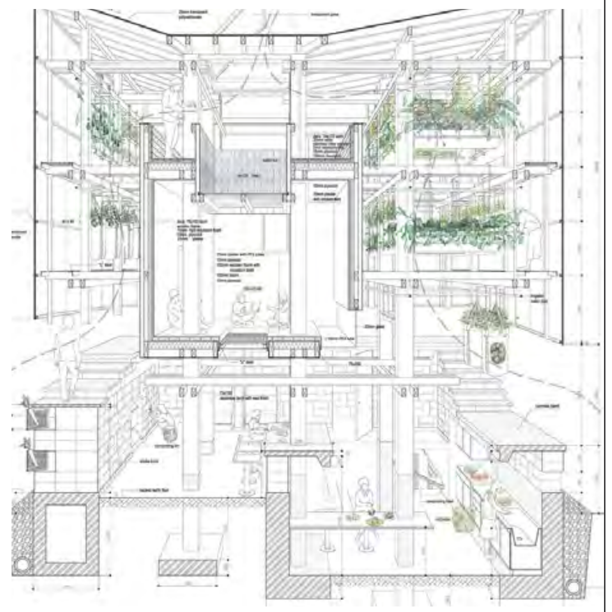
EXPLORING WOODEN FRAMES AND JOINTS USING PRECEDENT

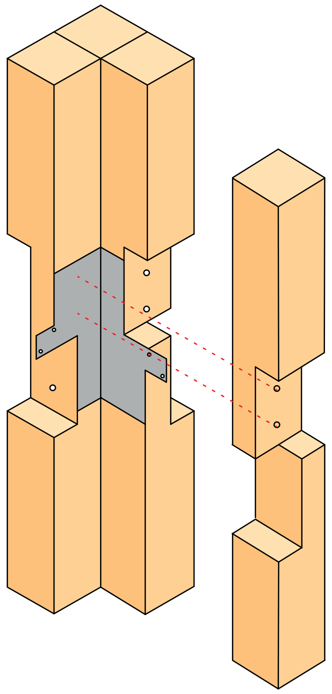


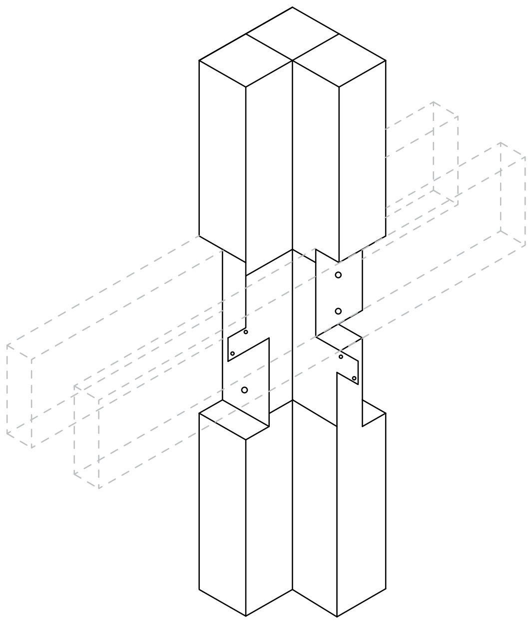


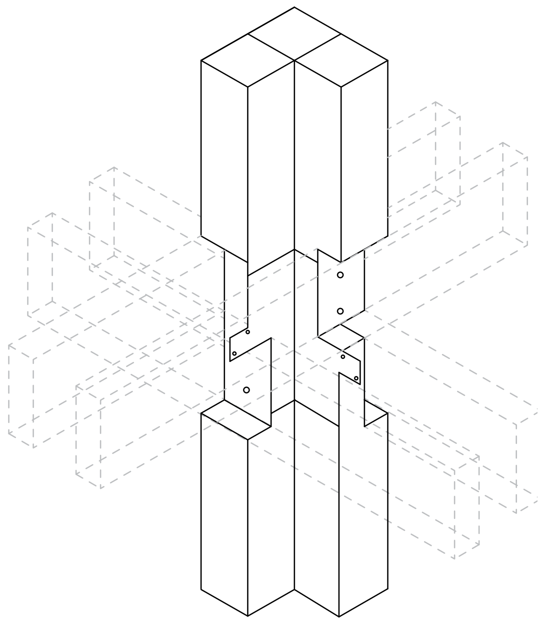


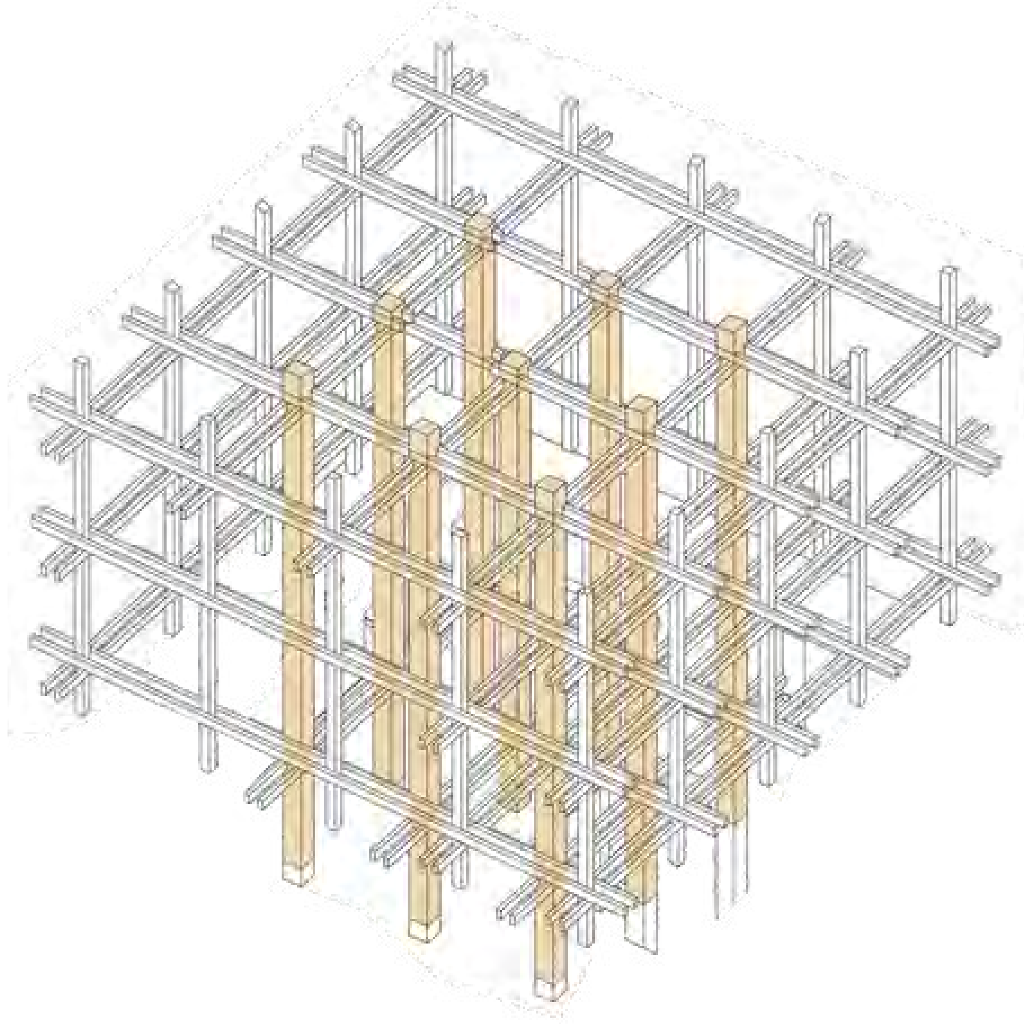
NEST WE GROW - HOKKAIDO, JAPAN
- UC BERKELEY AND KENGO KUMA & ASSOCIATES





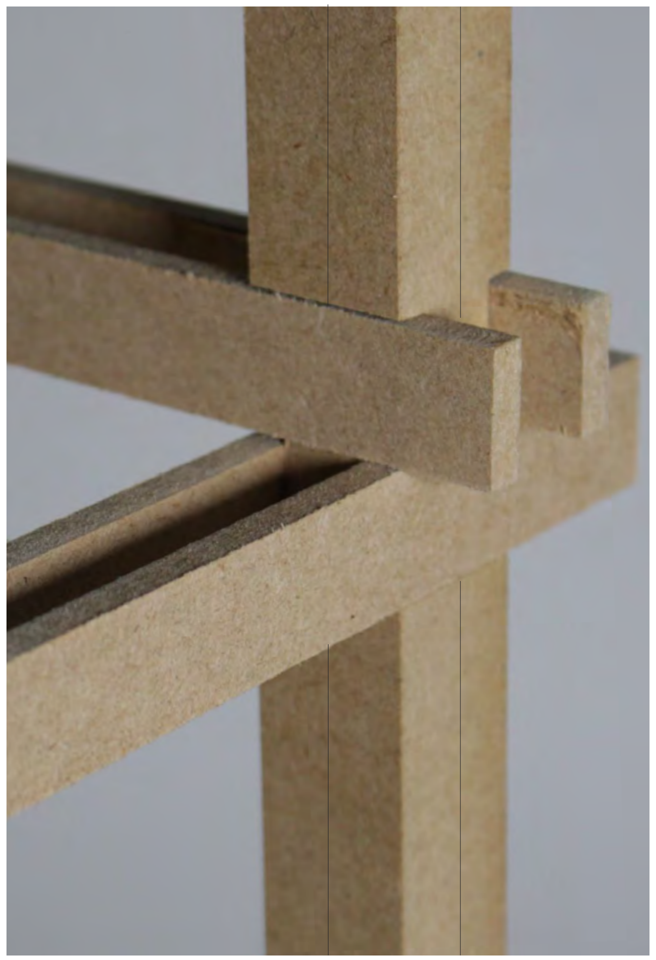


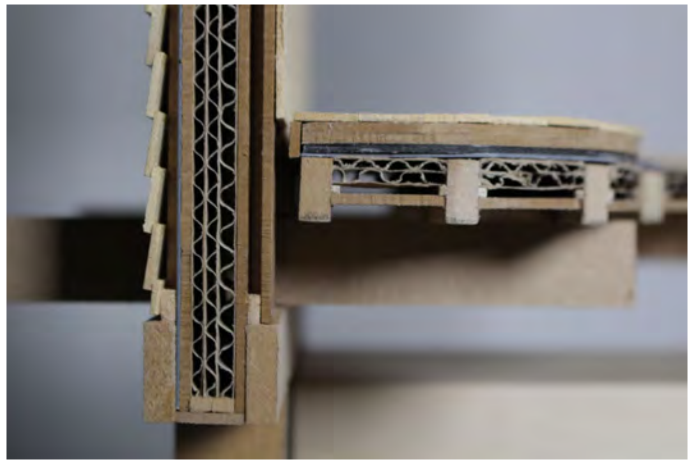


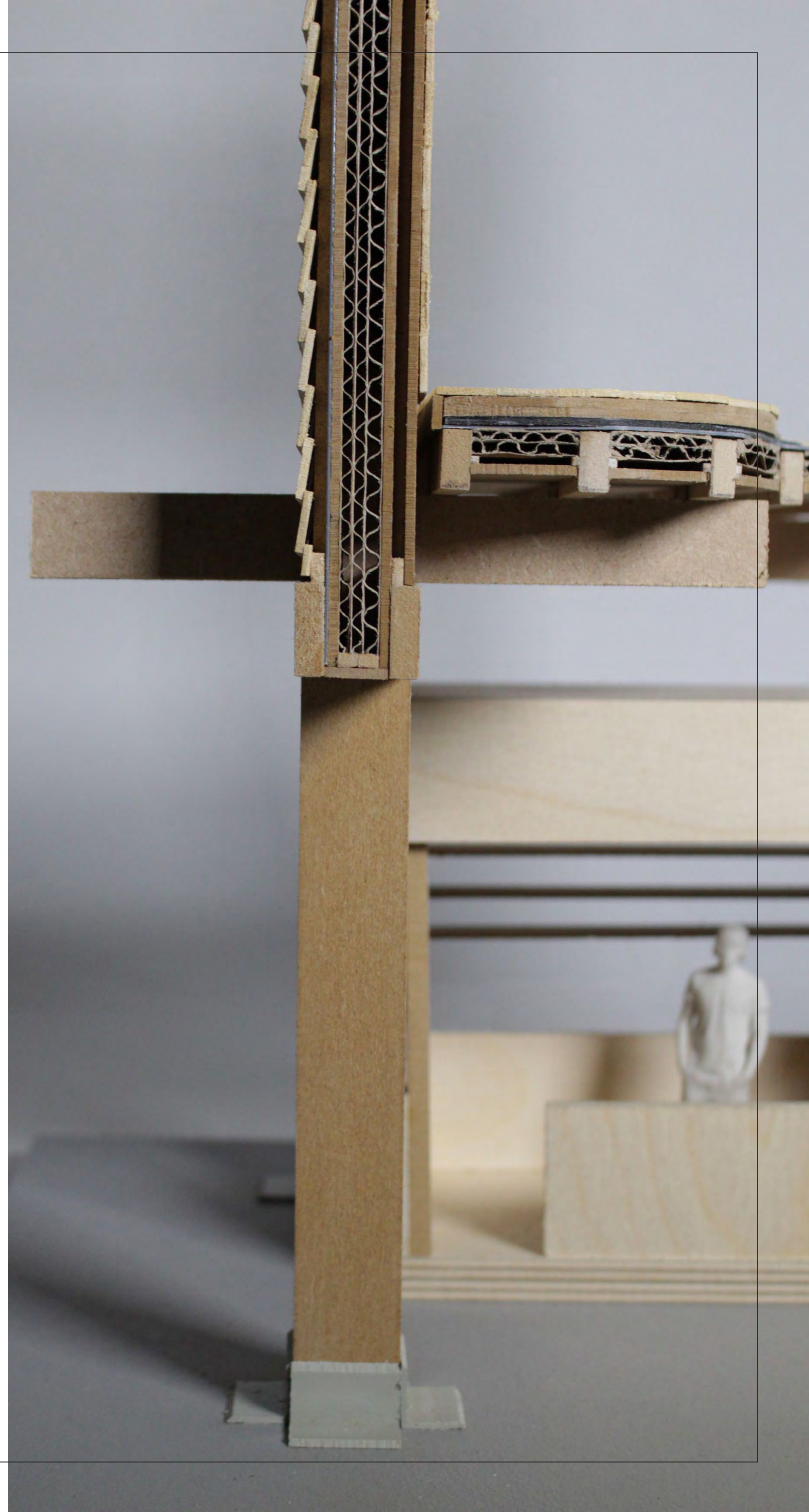


SECTIONAL MODEL

1:20 SECTIONAL MODEL, DETAILING THE WALL AND FLOOR MAKE-UP, STRUCTURE AND RELATIONSHIP BETWEEN THE PUBLIC GROUND FLOOR AND THE RESIDENTIAL REST OF THE FLOORS

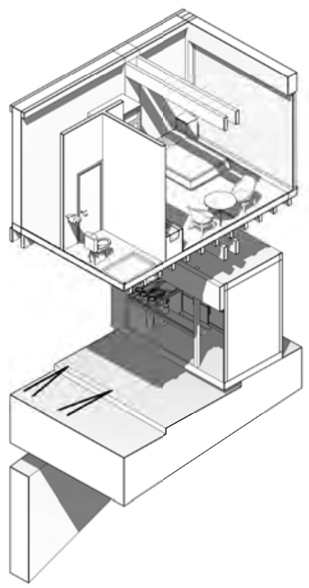




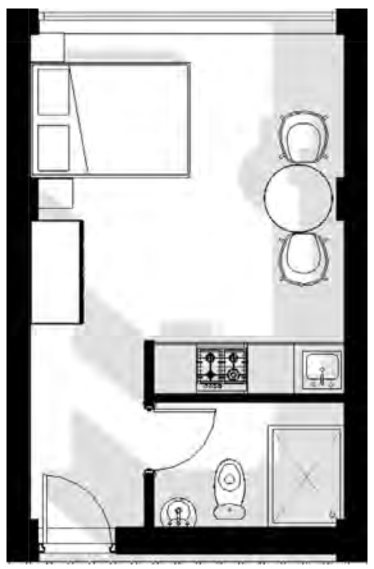


HOUSING TYPOLOGIES

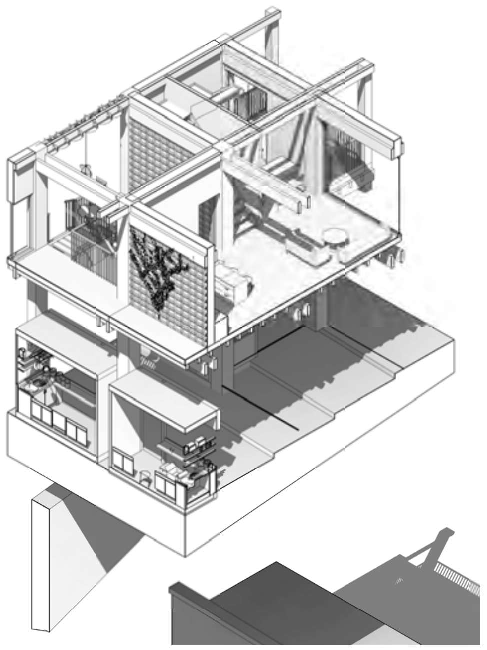
STUDIO



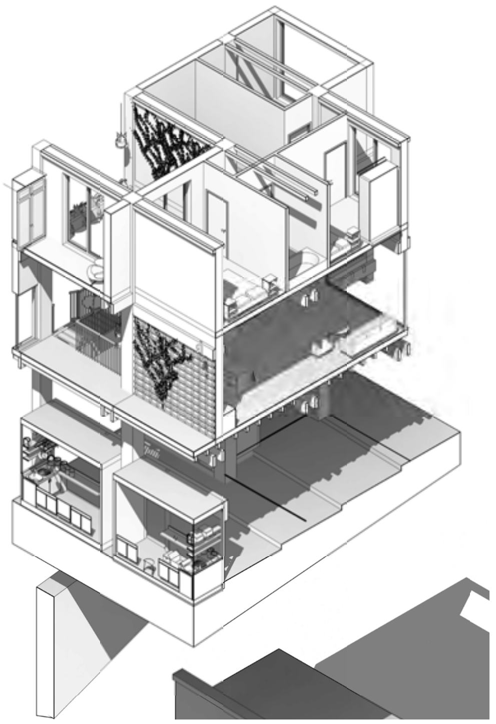
GROUND FLOOR



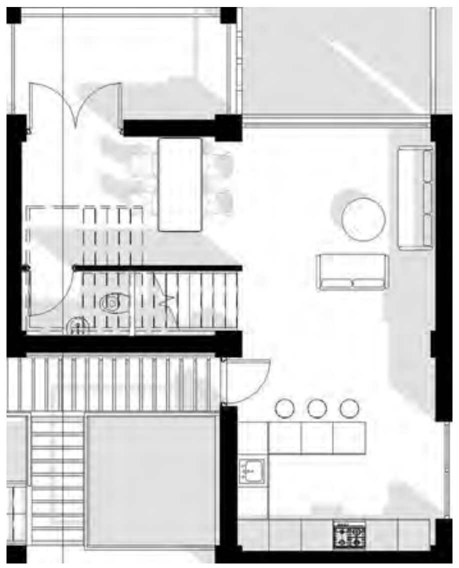
FAMILY HOUSE (3-4 BEDROOM)



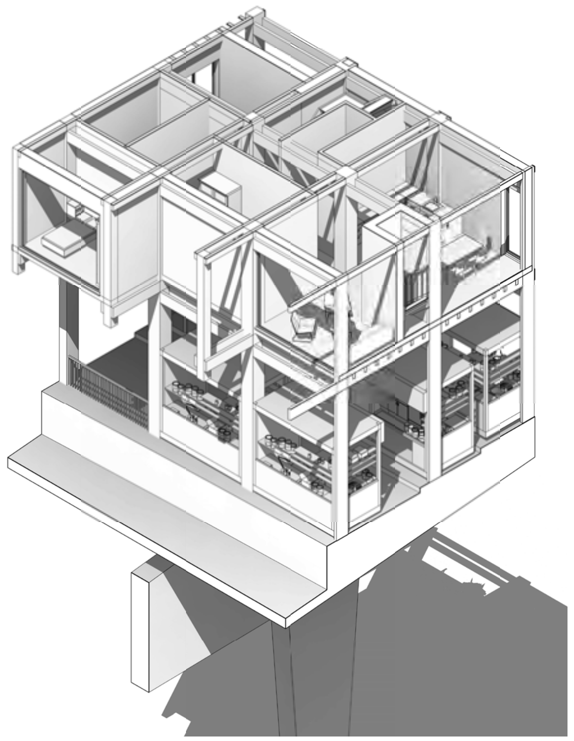
GROUND FLOOR



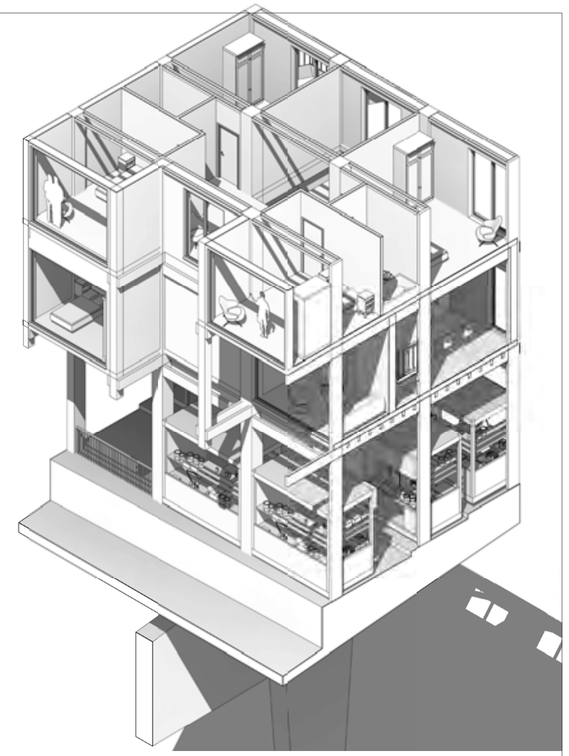
FIRST FLOOR



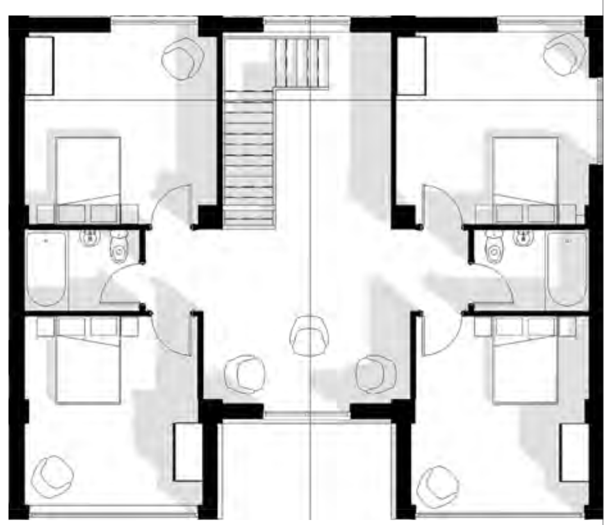
CO-HOUSING BLOCK



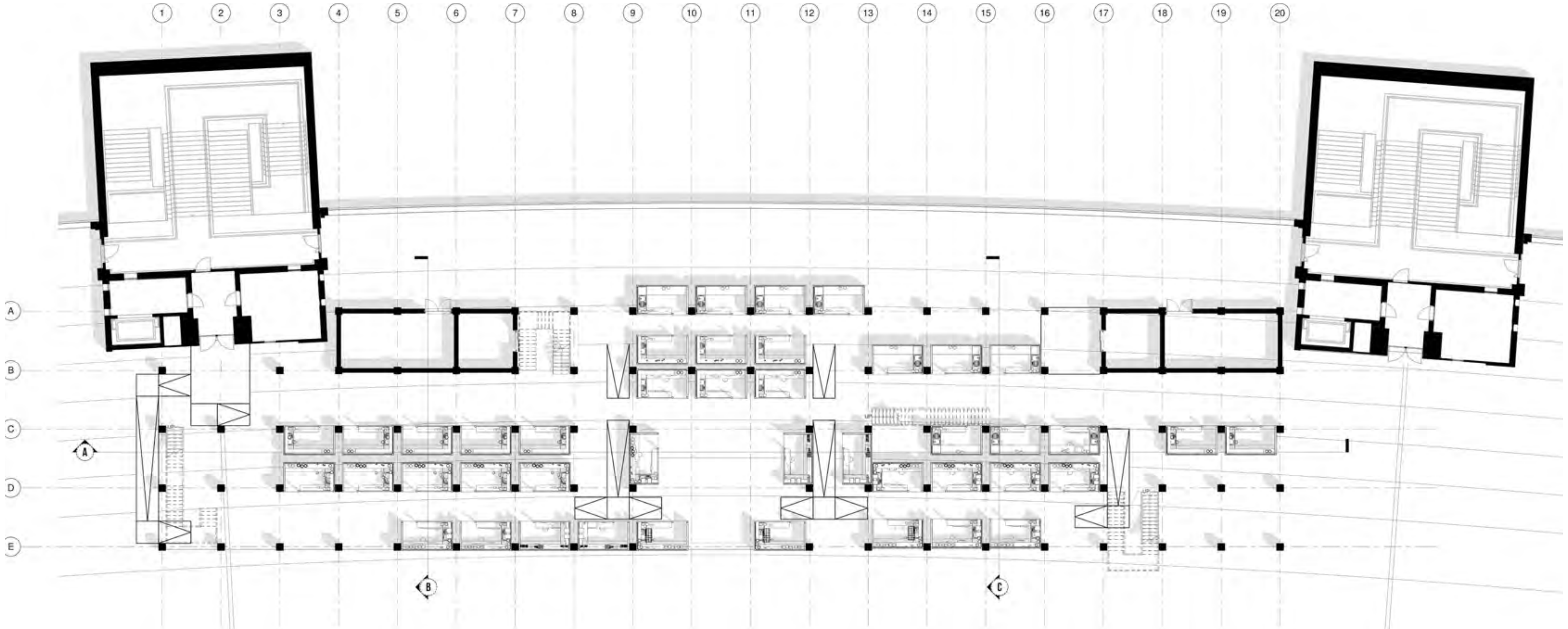
GROUND FLOOR



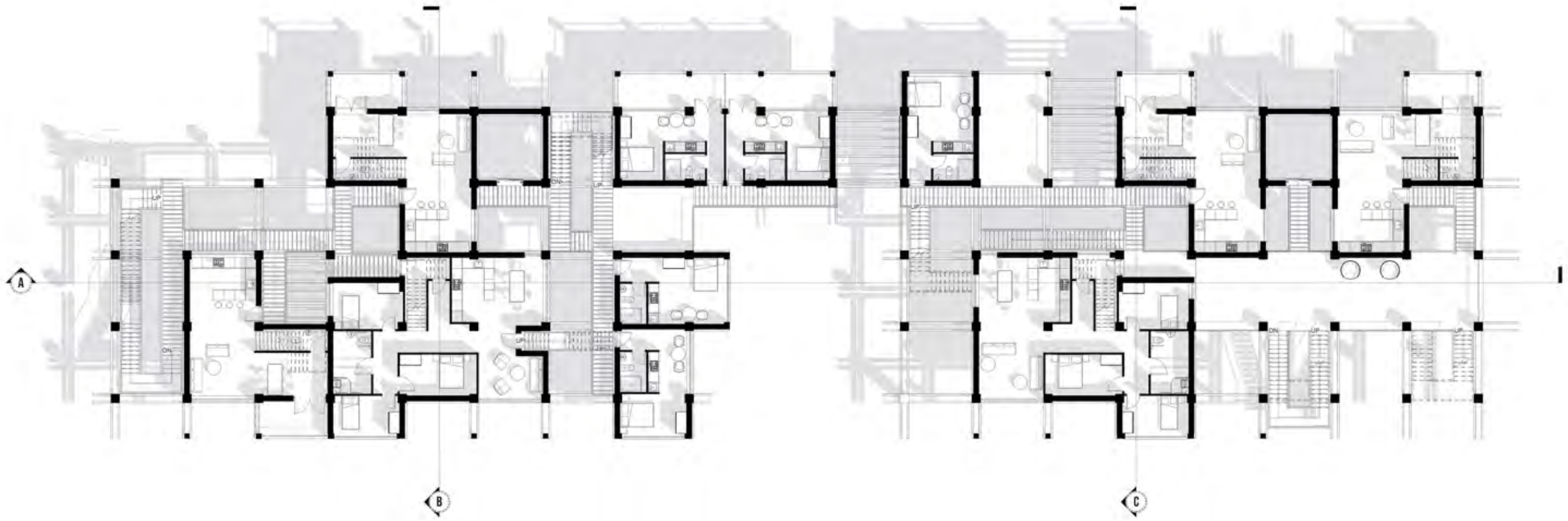
FIRST FLOOR



GA DRAWINGS



GROUND FLOOR PLAN 1:100 @ A0



FIRST FLOOR PLAN 1:100 @ A0

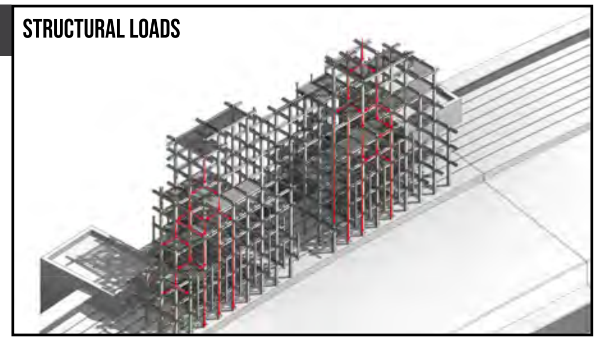
COMPLIANCE WITH BRITISH BUILDING REGULATIONS

APPROVED DOCUMENT PART A - STRUCTURE

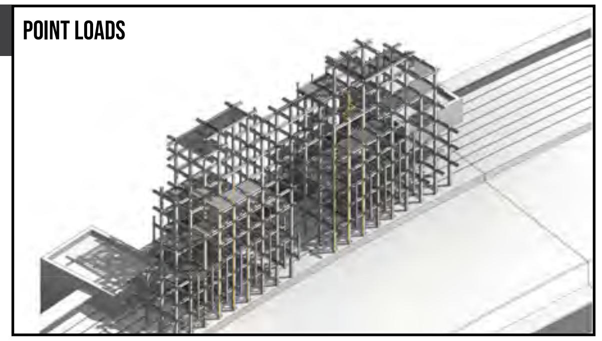
-in response to paragraph A1; the building shall be constructed so that the combined dead, imposed and wind loads are sustained and transmitted by it to the ground safely.

-due to the height of the building and its location on top of the tempelhof, special attention has been paid to wind loads in regard to timber sizes and spans in accordance with eurocode 5: design of timber structures.

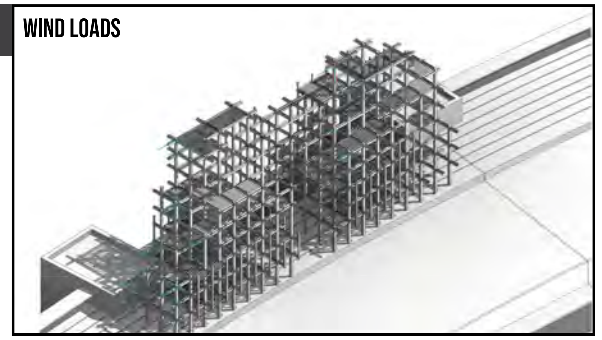
1. STRUCTURAL LOADS



2. POINT LOADS



3. WIND LOADS



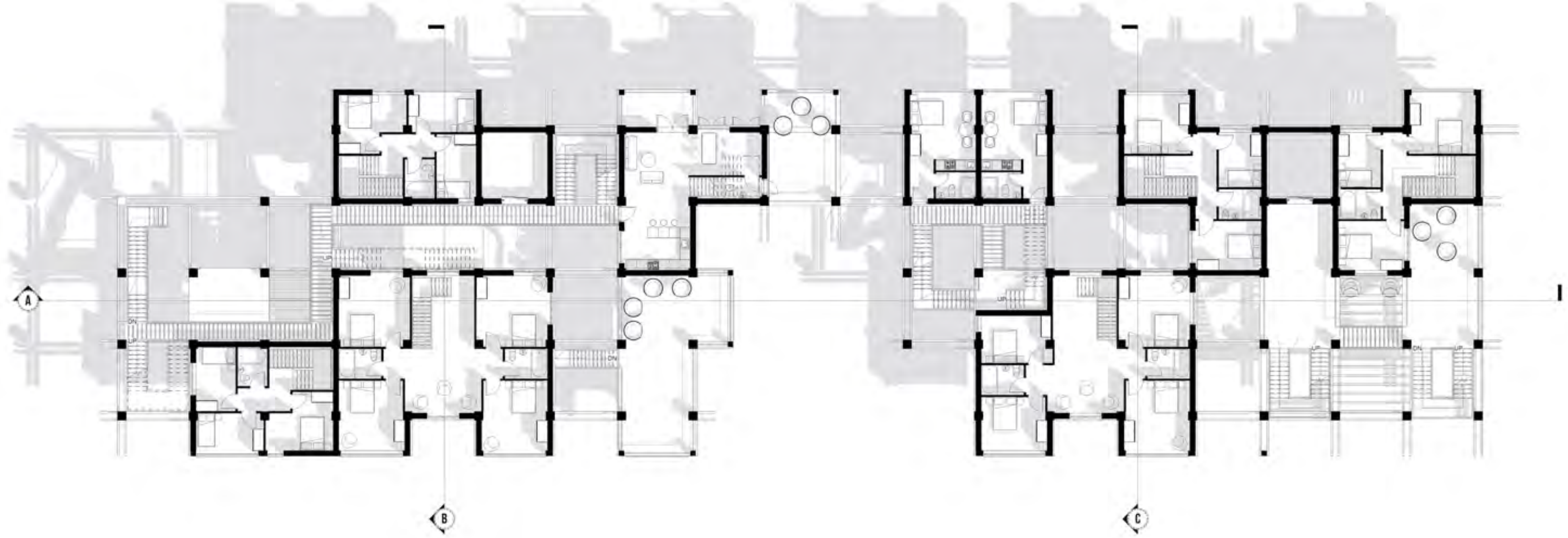
APPROVED DOCUMENT PART B - FIRE SAFETY

-the building is fitted throughout with a sprinkler system designed and installed in accordance with BS 9251:2005.

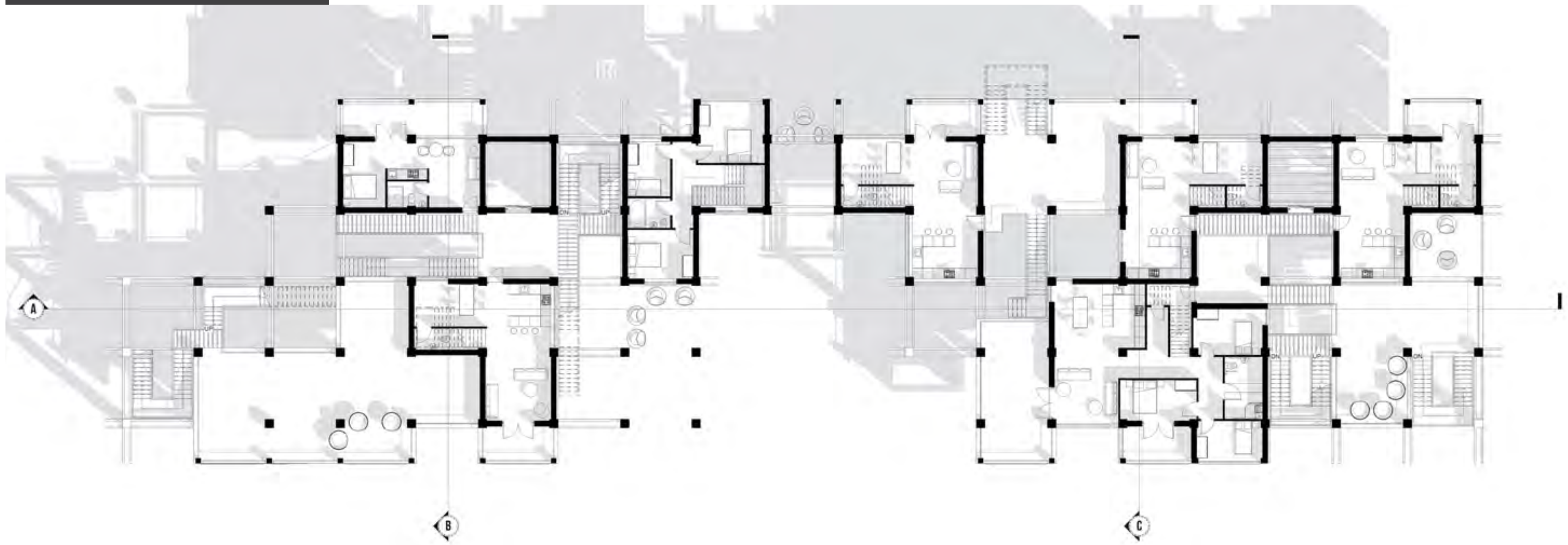
-fire escape routes comply with widths of 1200mm from rail to rail.

-As all units are served with more than one stair, the maximum travel distance to a fire escape is 28m which is under the maximum guideline of 30m.

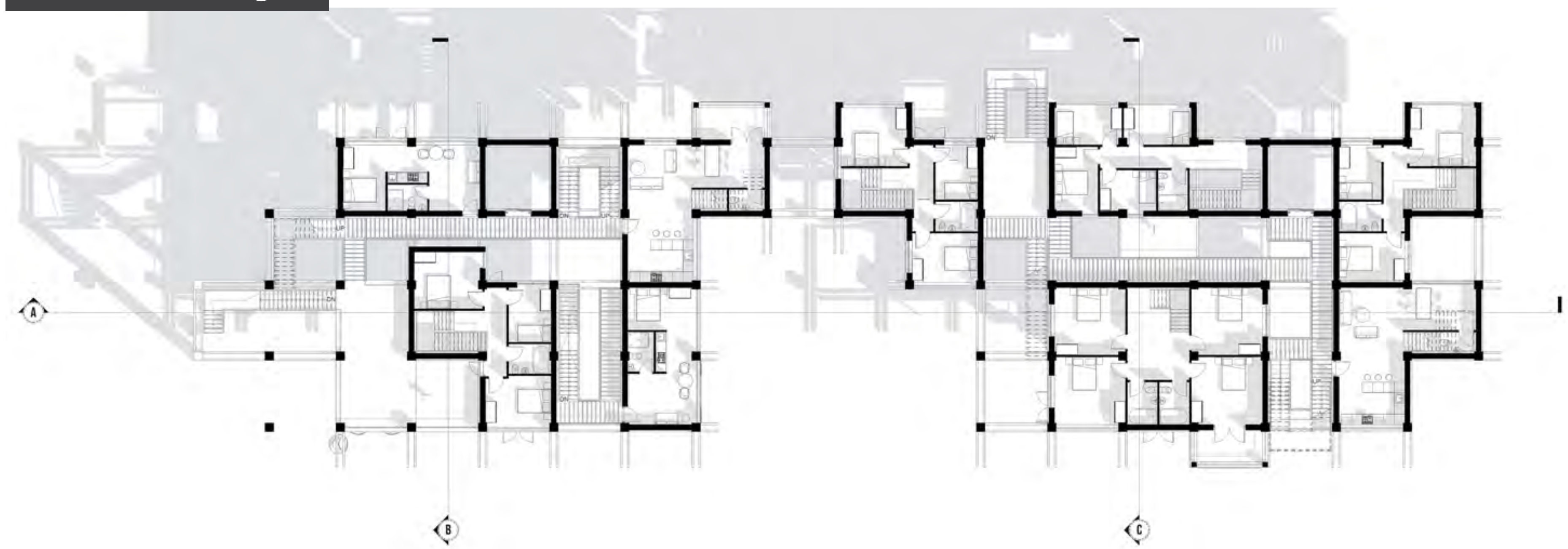
-Each door handle is a minimum of 300mm from any obstacles to provide adequate access to door openings in the event of a fire.



SECOND FLOOR PLAN 1:100 @ A0



THIRD FLOOR PLAN 1:100 @ A0



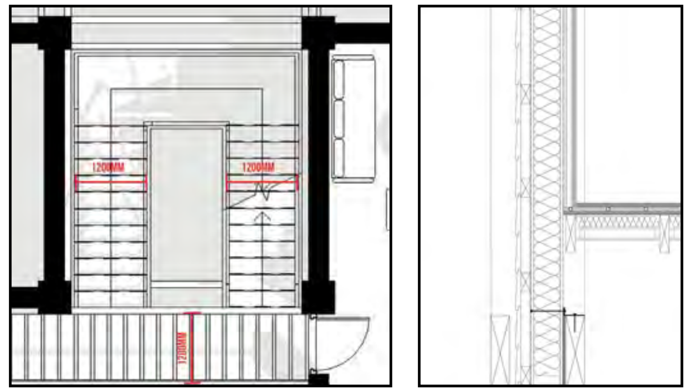
FOURTH FLOOR PLAN 1:100 @ A0

COMPLIANCE WITH BRITISH BUILDING REGULATIONS

APPROVED DOCUMENT PART B - FIRE SAFETY (CONTINUED)

-stair widths exceed the minimum of 1100mm to be used as firefighting stairs.

-treated glulam structure achieves a value of 120 minute fire rating

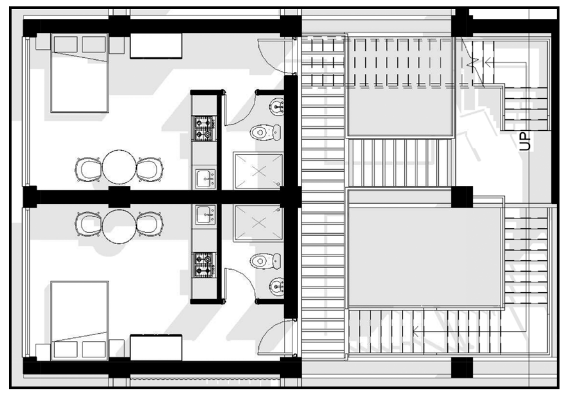


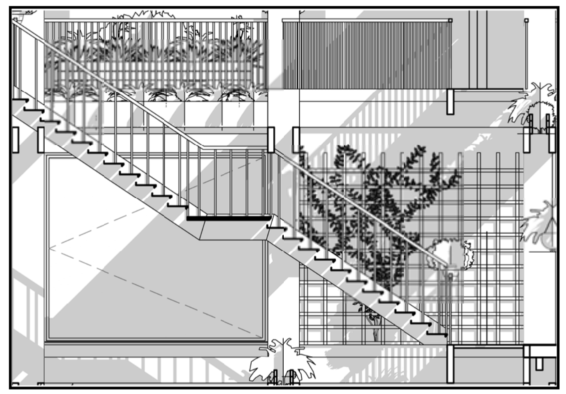
APPROVED DOCUMENT PART K - PROTECTION FROM FALLING

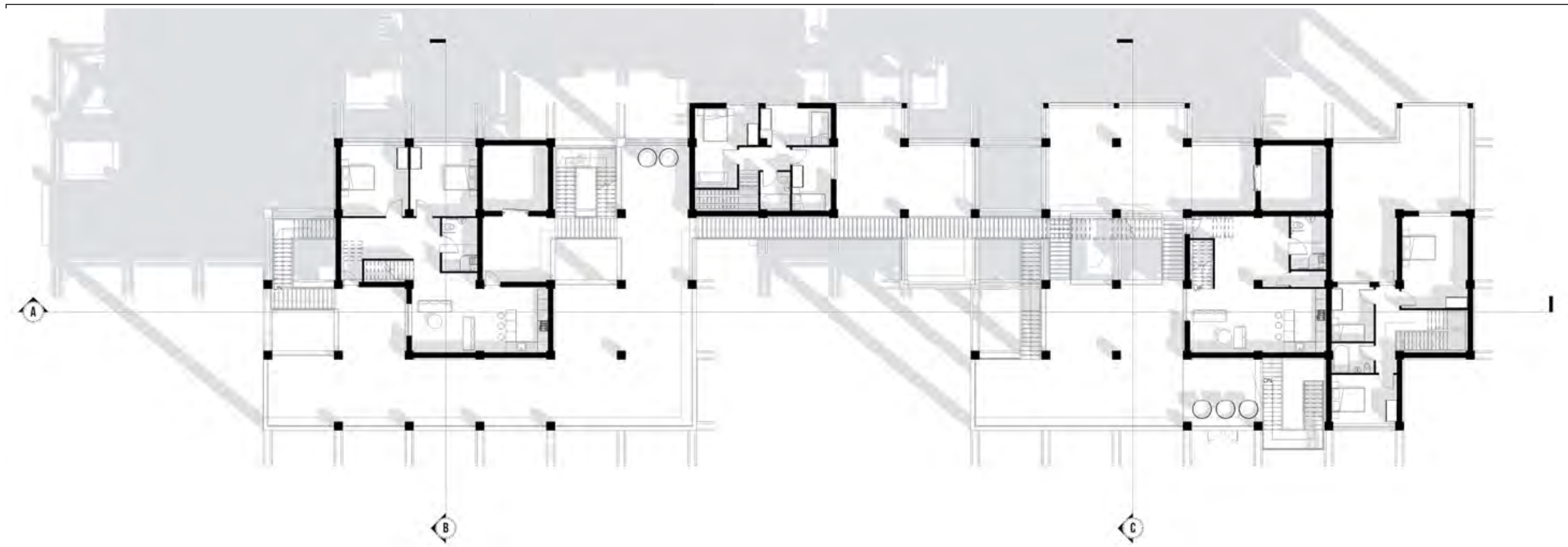
-stair risers do not exceed 220mm with a going of 250mm. landings are used in flights longer than 12 stairs and all landings are equal depth to the stair widths (1200mm).

-all stair balustrades are placed at 100mm centres to ensure a ball with a diameter of 100mm cannot fit through the gap.

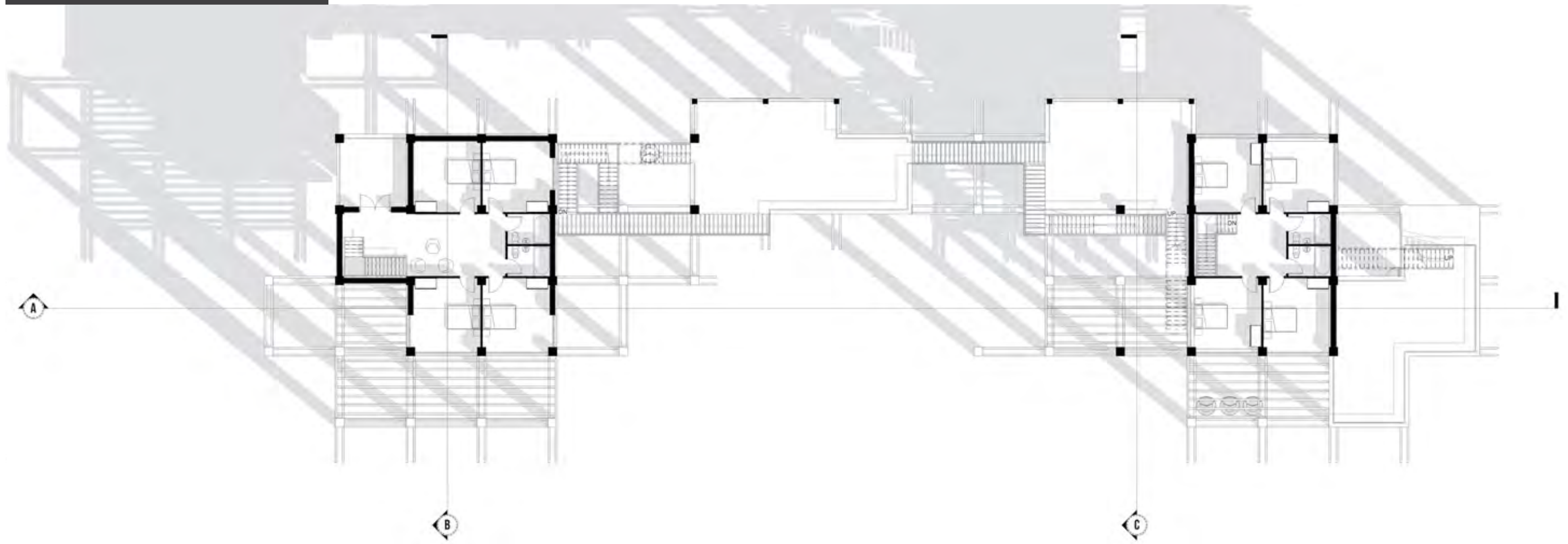
-open risers are used throughout the building however the thickness of the riser is such that the opening is less than 100mm to ensure a ball with a diameter of 100mm cannot fit through the gap.



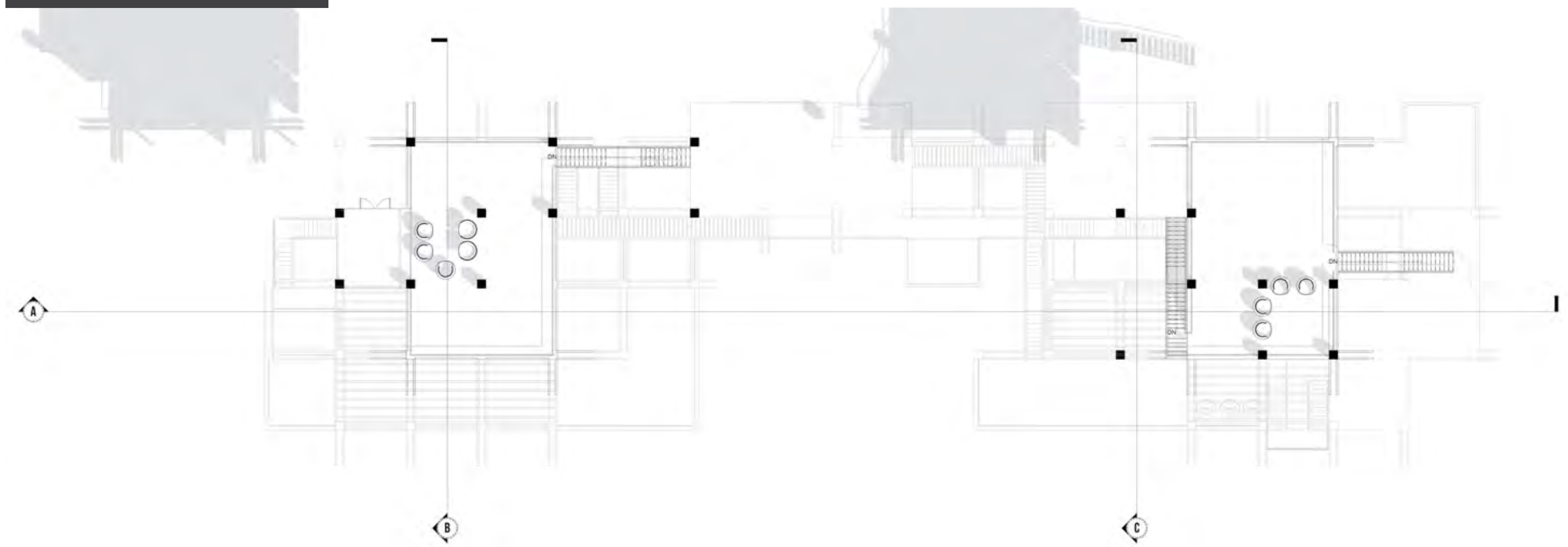




FIFTH FLOOR PLAN 1:100 @ A0



SIXTH FLOOR PLAN 1:100 @ A0



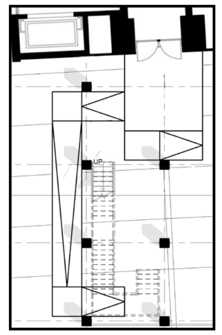
SEVENTH FLOOR PLAN 1:100 @ A0

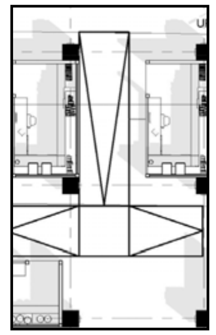
COMPLIANCE WITH BRITISH BUILDING REGULATIONS AND TECHNICAL MINIMUM SPACE STANDARDS

APPROVED DOCUMENT PART M - ACCESS TO AND USE OF BUILDINGS

-to provide adequate access in compliance with part m, the corridors exceed the minimum of 900mm. all corridor widths are 1200mm to provide adequate disabled access.

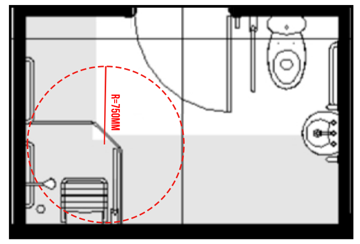
- to provide adequate access to all market stalls without compromising the unique topography of the tempelhof roof, ramps have been used with ratios between 1:12 and 1:20 dependent on the distance travelled and a width of 1500mm.





APPROVED DOCUMENT PART M - ACCESS TO AND USE OF BUILDINGS (CONTINUED)

-on the ground floor of cohousing units is an accessible WC and wetroom entered via 1010mm door.

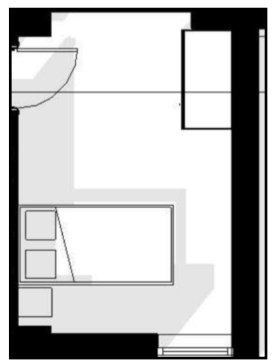


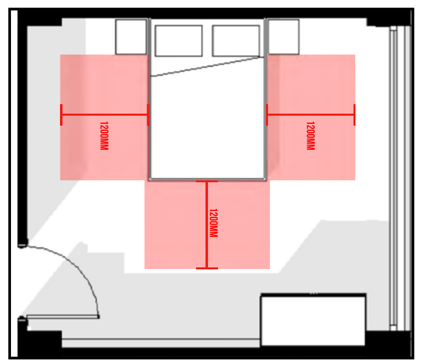
MINIMUM SPACE STANDARDS:

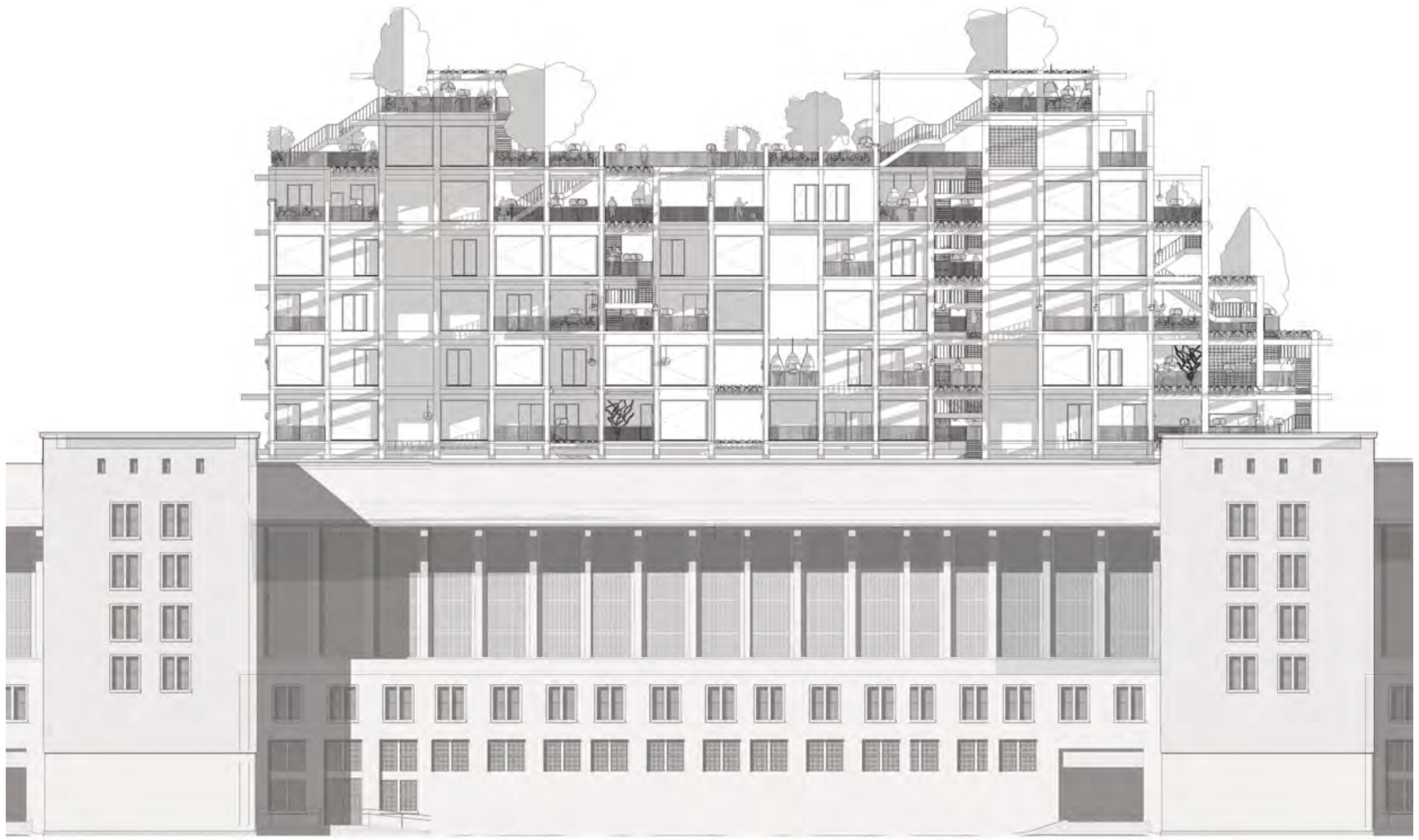
-a single bedroom has a floor area of at least 7.5m2 and is at least 2.15m wide

-in order to provide two bedspaces, a double (or twin bedroom) has a floor area of at least 11.5m2

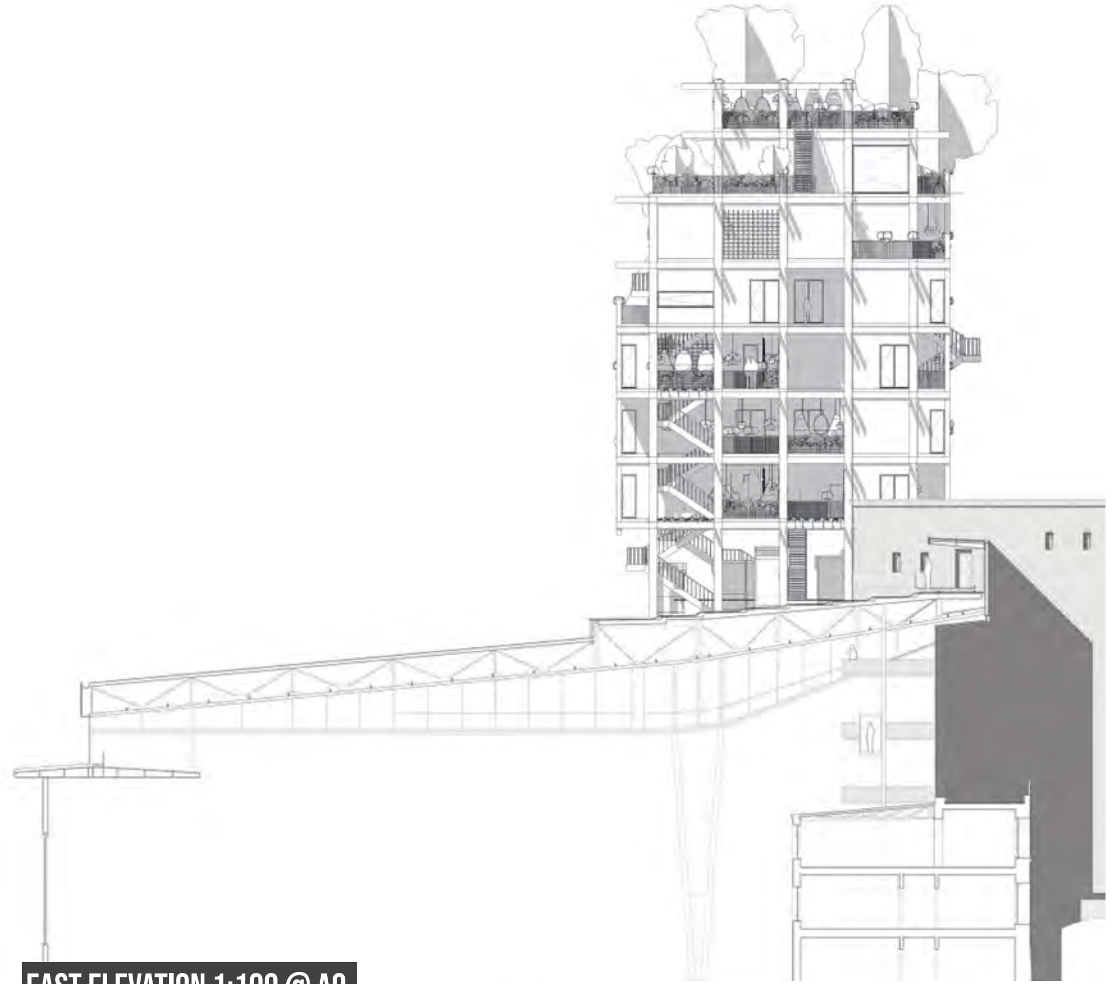
-10% of bedrooms have a clear 1200mm around all sides of the bed to provide access.



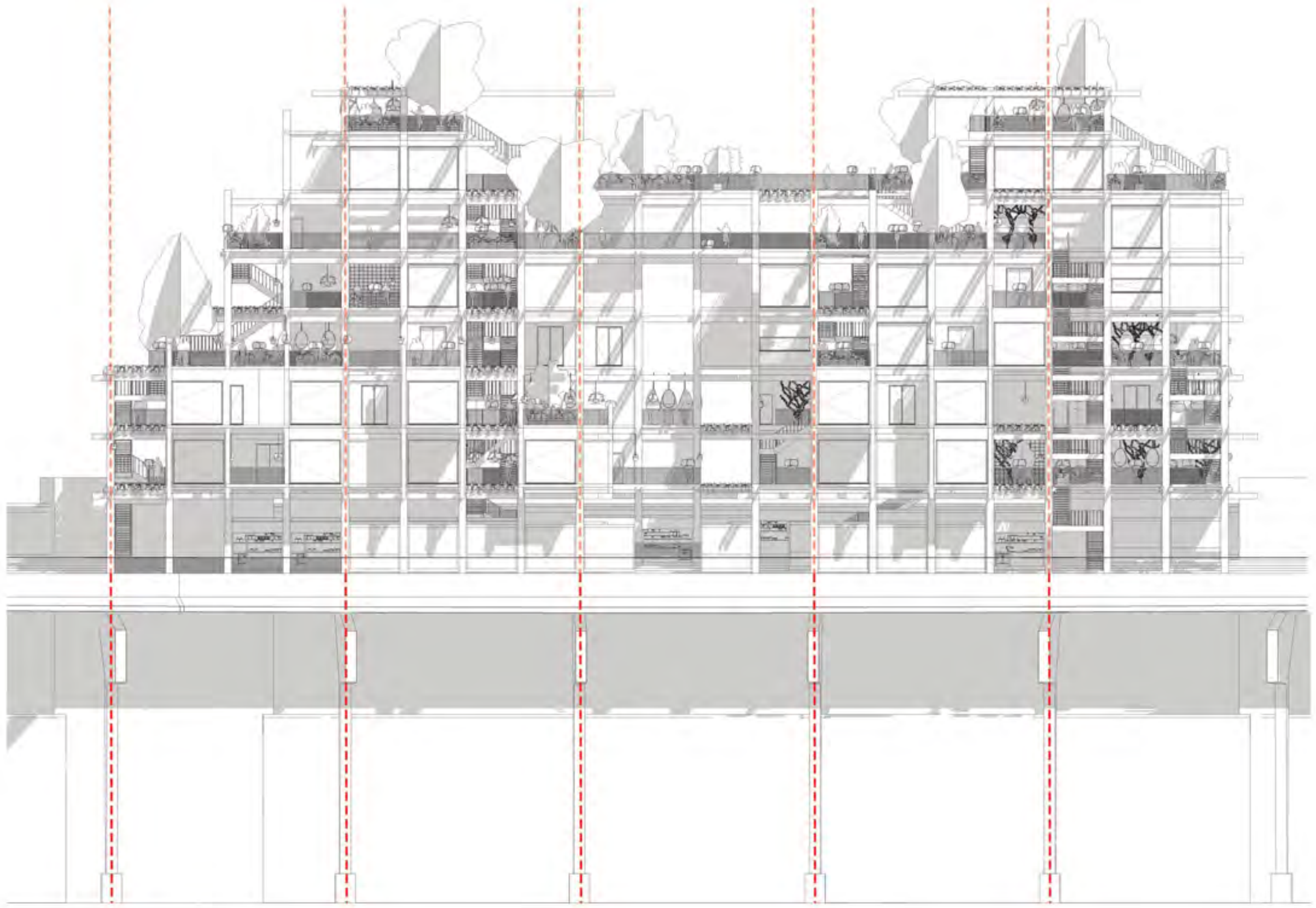




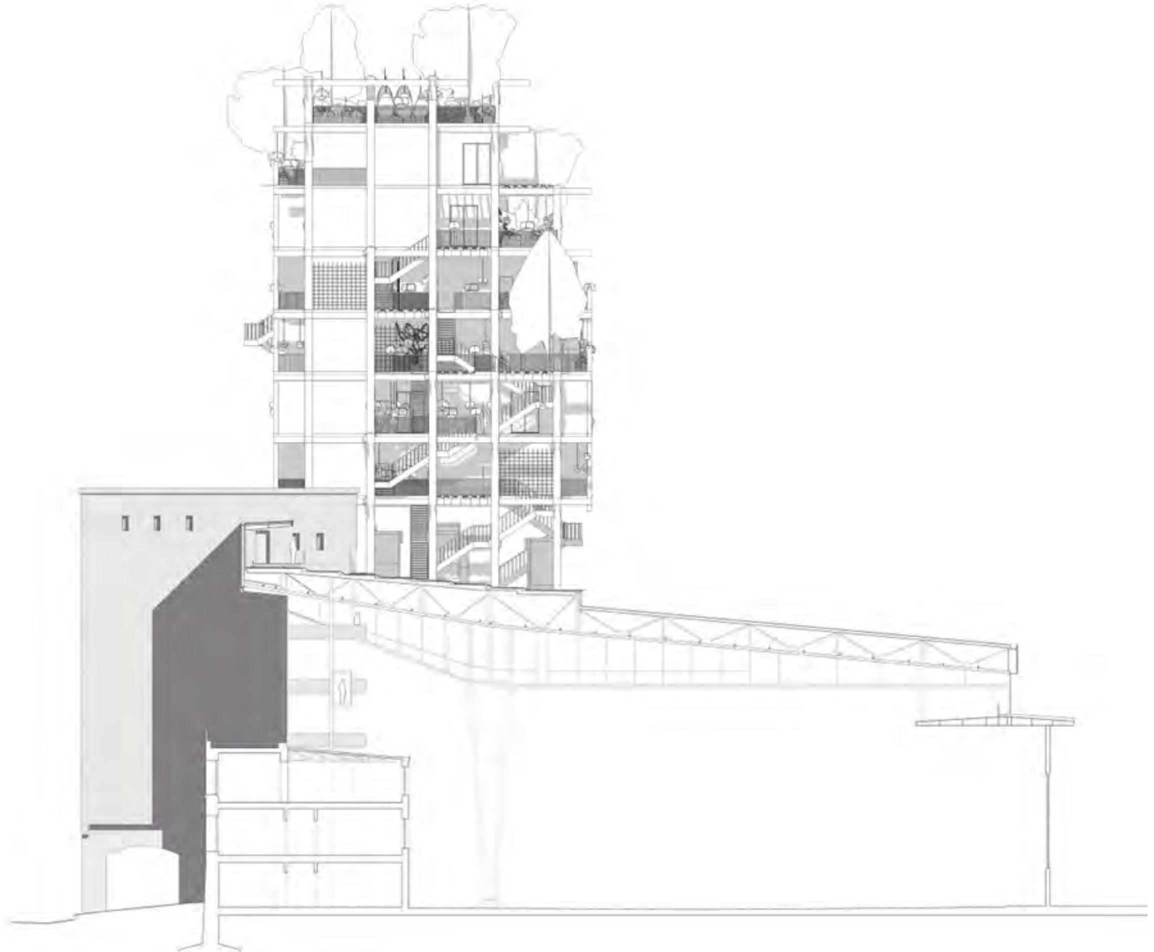
NORTH ELEVATION 1:100 @ A0



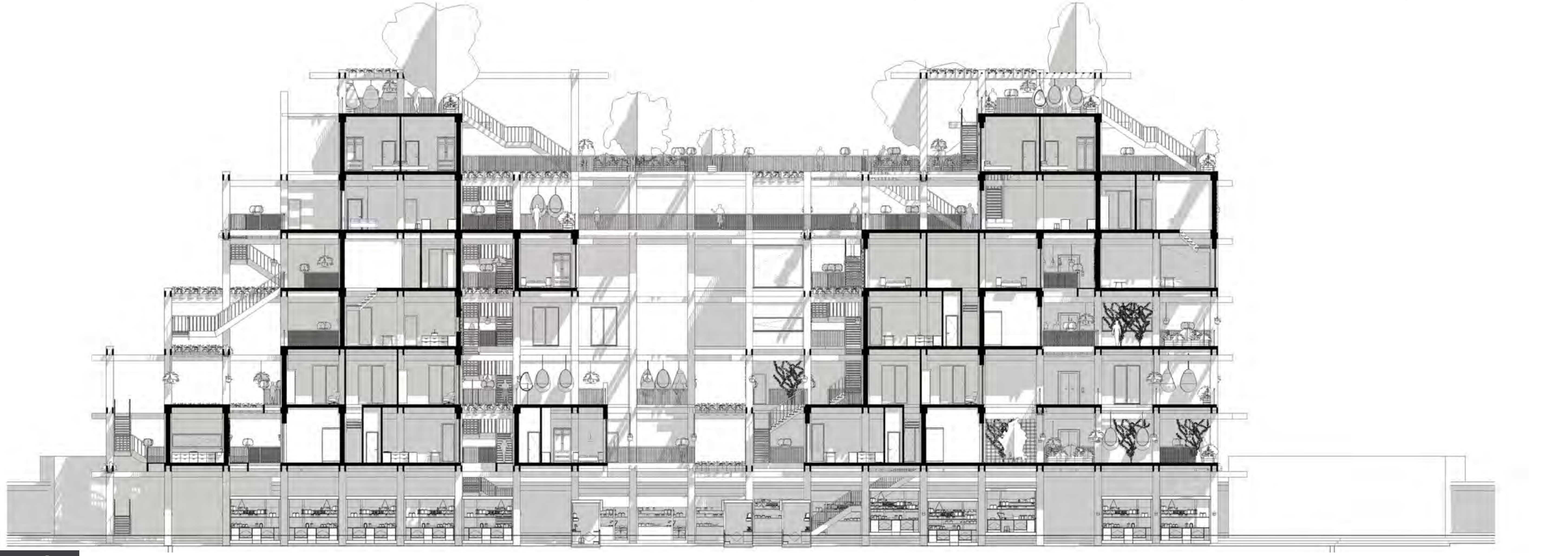
EAST ELEVATION 1:100 @ A0



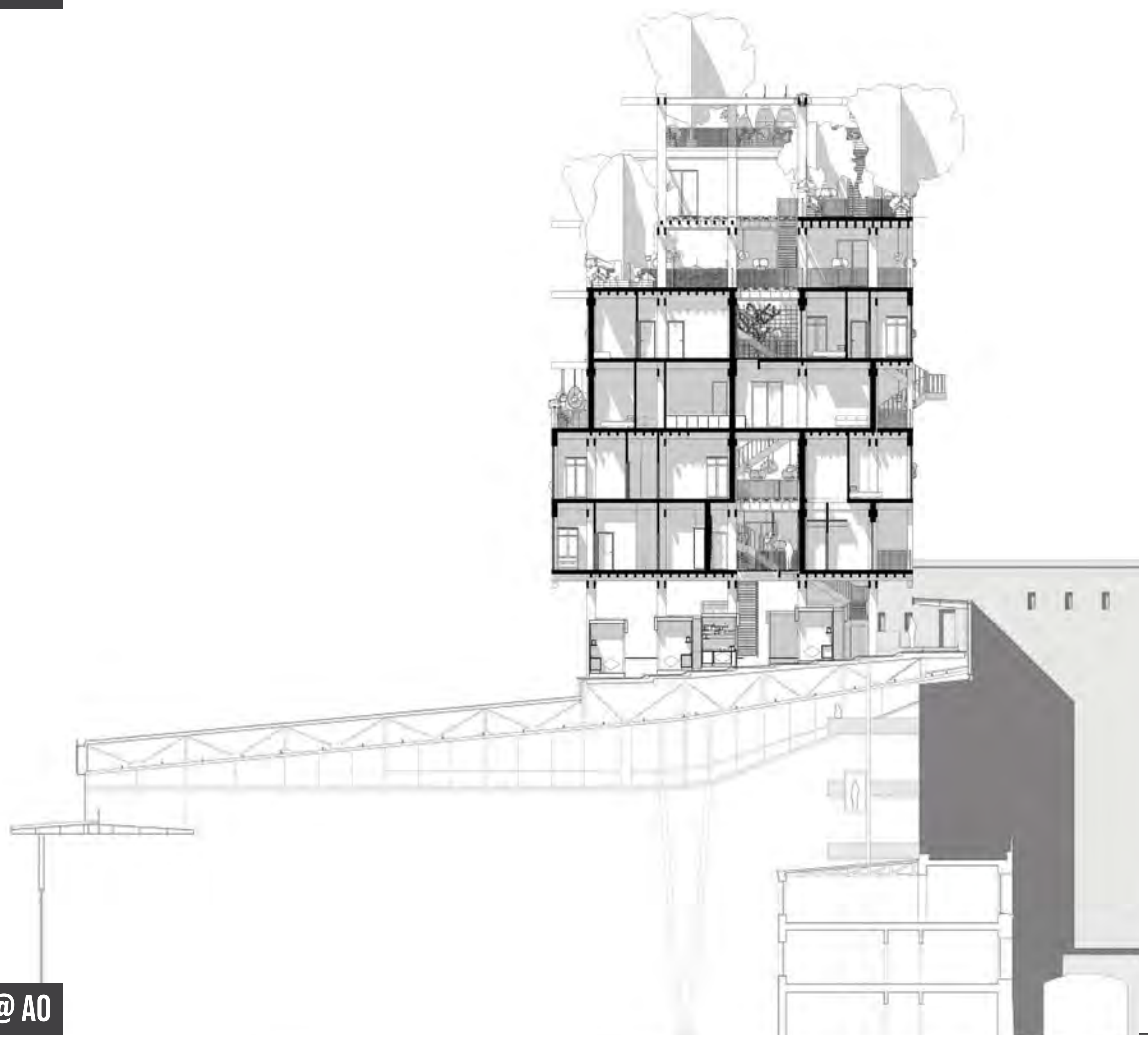
SOUTH ELEVATION 1:100 @ A0



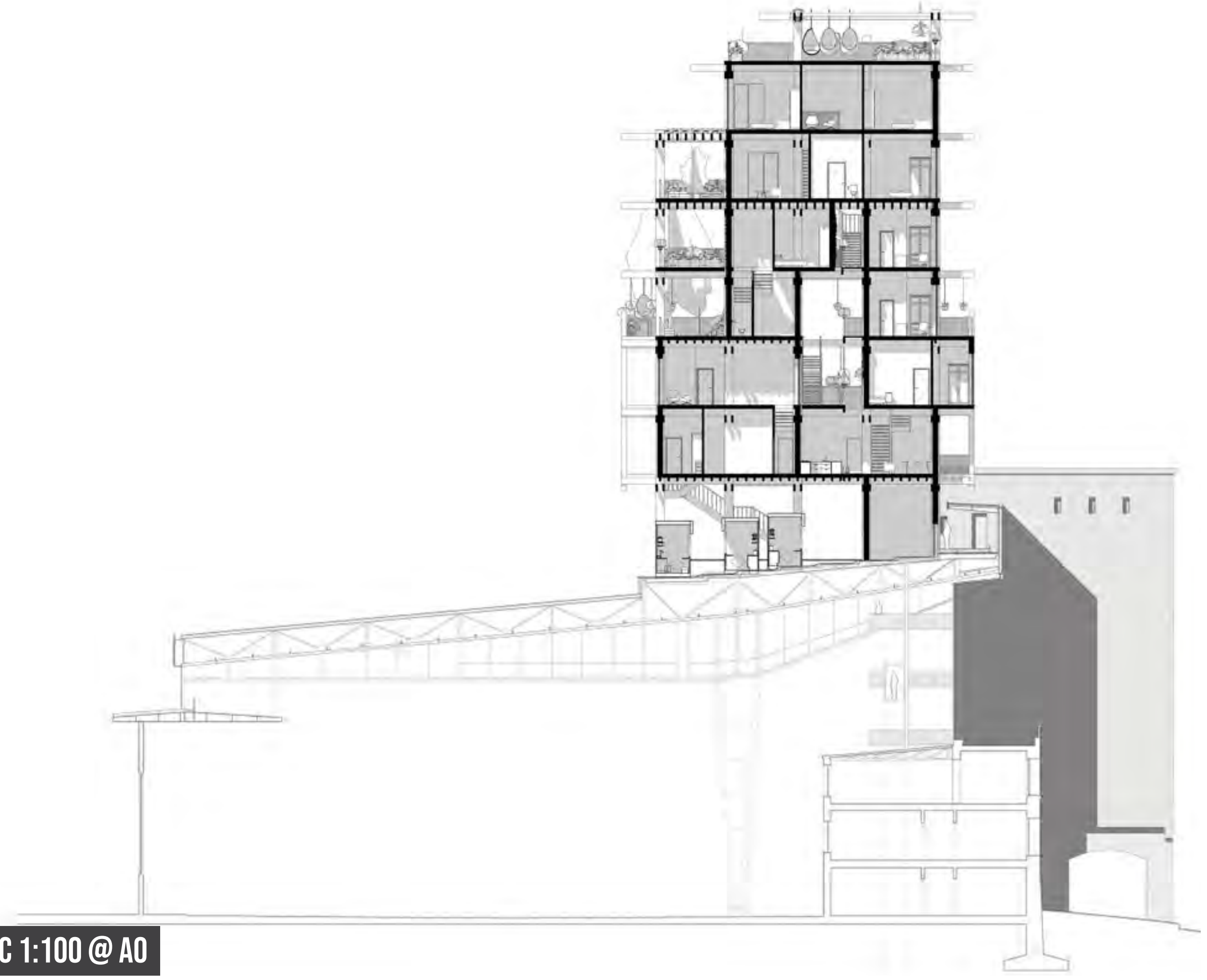
WEST ELEVATION 1:100 @ A0



SECTION A 1:100 @ A0

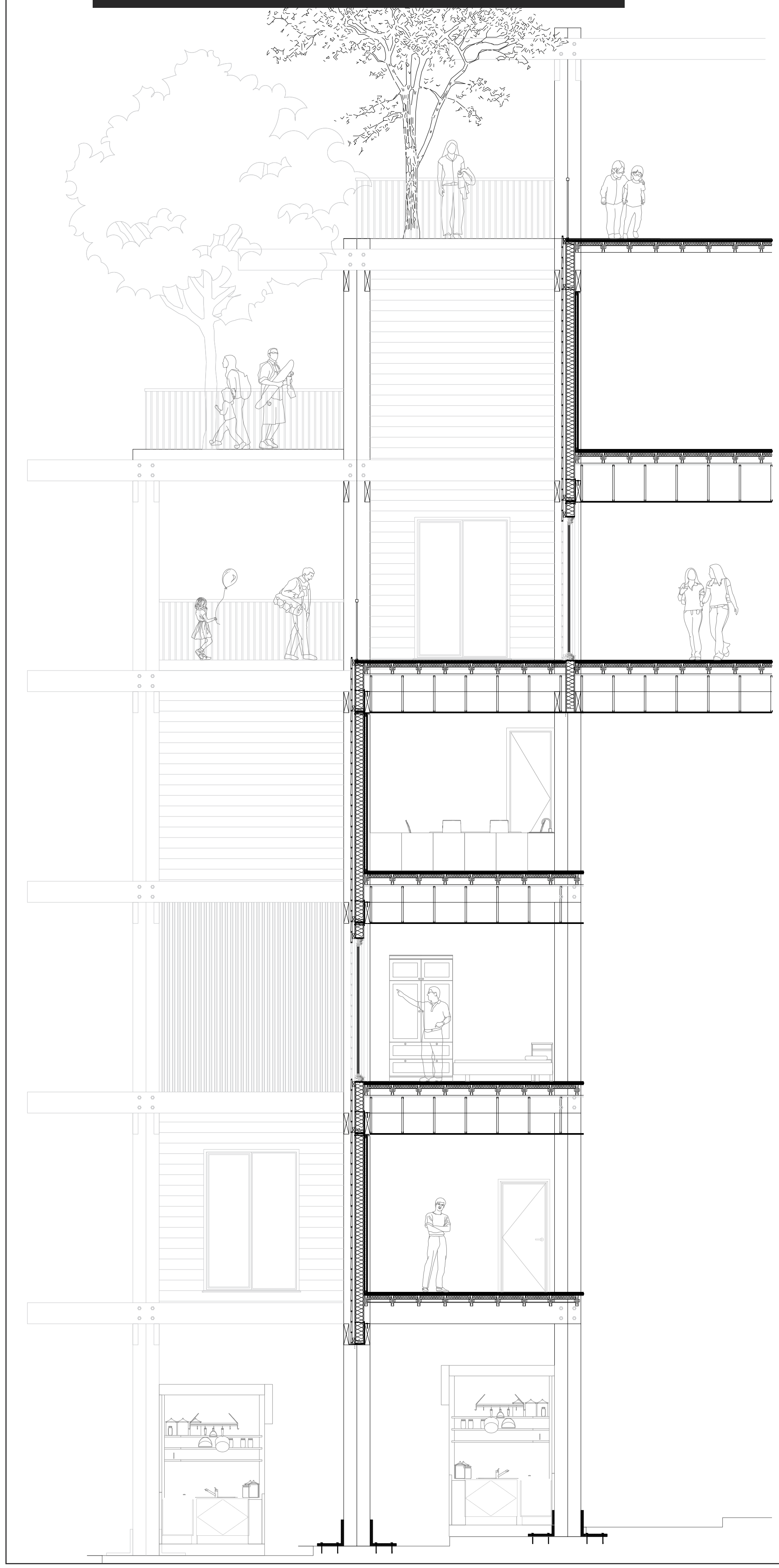


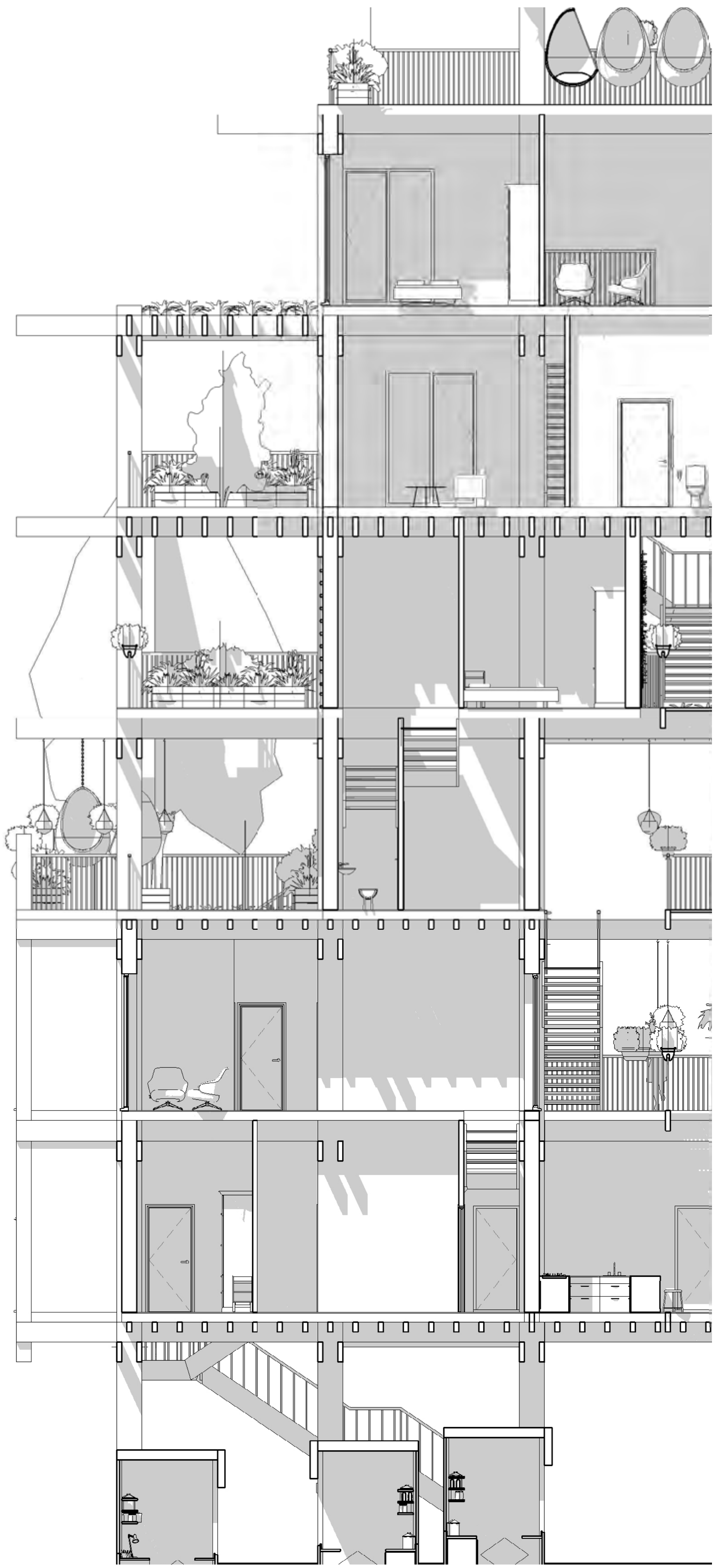
SECTION B 1:100 @ A0



SECTION C 1:100 @ A0

CONSTRUCTION DETAIL





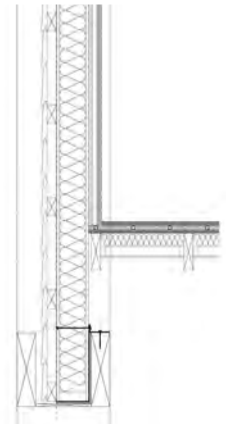
WAll build up :

-12.5mm plasterboard
-12.5mm gyproc fireboard
-50mm service gap
-50mm timber counterbattens
-2omm TW55 thermawall with rigid thermoset polyisocyanurate core (u-value=0.022W/mk)
-15mm Osb board sips panel facing (u-value=0.13w/mk)
-170mm High performance CFC/ HCFC free rigid thermoset urethane insulant of typical density 33 kg/m^3, manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP). (u-value=0.024w/mk)
-15mm Osb board sips panel facing (u-value=0.13w/mk)
-0.5mm breathable membrane
-50mm ventilation gap
-50mm timber battens
-20mm black stained larch cladding

structural build up :
-4 x (250mm x 250mm) black stained douglas fir timber columns joined together, forming one 500mm x 500mm column
-400mm x100mm black stained glulam beams
-200mm x 50mm beech floor joists
-angled cleat
-anchor bolt
-dead load fixing
-bottom plate/head plate

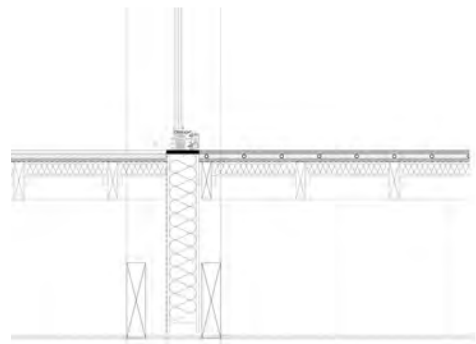
floor/ceiling build up:
-20mm birch floorboards/
 20mm astroturf
-25mm screed with underfloor heating
-15mm osb board
-0.5mm damp proof membrane
-2o0mm x 50mm beech floor joists
-75mm rock wool insulation
-suspended ceiling system with birch
plank finish to allow a variable service gap

build up with respect to fire safety:
-12.5mm gyproc fireboard
-25 mm tolerance gap filled with proprietary flexible fire stop
-25 mm movement joint filled with mineral fibre



wall to floor joint

wall to green roof joint

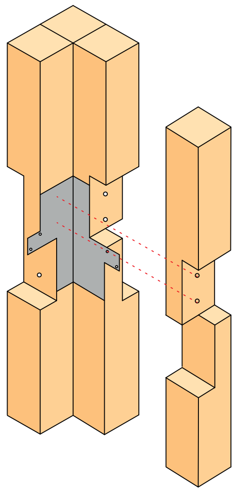


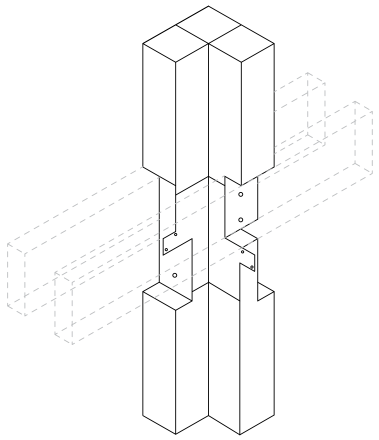
indoor to outdoor

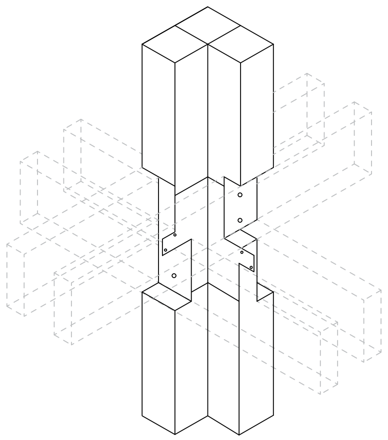
window to floor joint

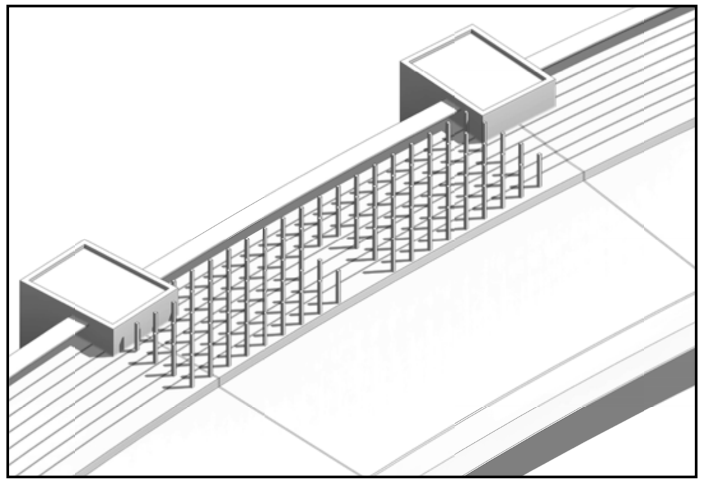
CONSTRUCTION SEQUENCE

The structural components are manufactured off site; the columns are precut and the beams are cut to a maximum span of 6m. The components are then assembled and bolted together on site. SIPS panel wall elements complete with windows and doors are built in a warehouse and then brought to site where they are fixed to the primary structure.

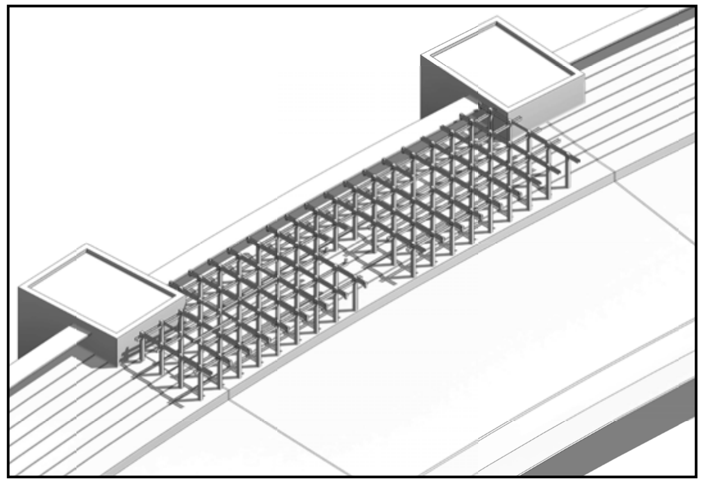




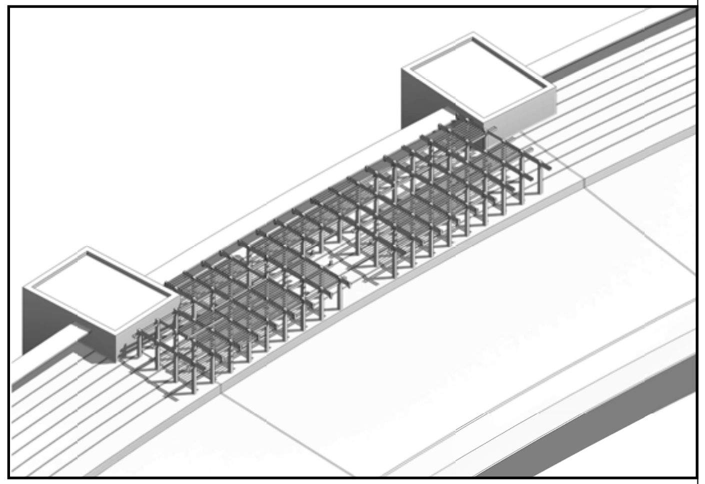




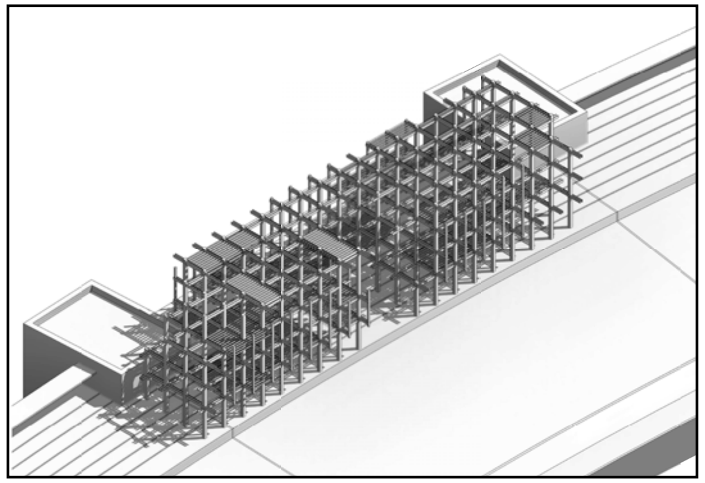
1) GROUND FLOOR DOUGLAS FIR TIMBER COLUMNS 4X(250X250MM) PLACED WITH STEEL FOOTING.



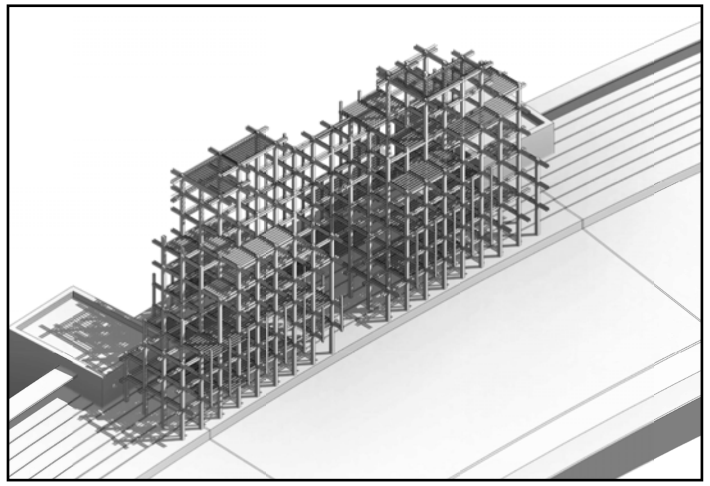
2) GROUND FLOOR GLULAM BEAMS (400X100MM) FIXED TO COLUMNS USING JOINT DETAILED TO THE LEFT.



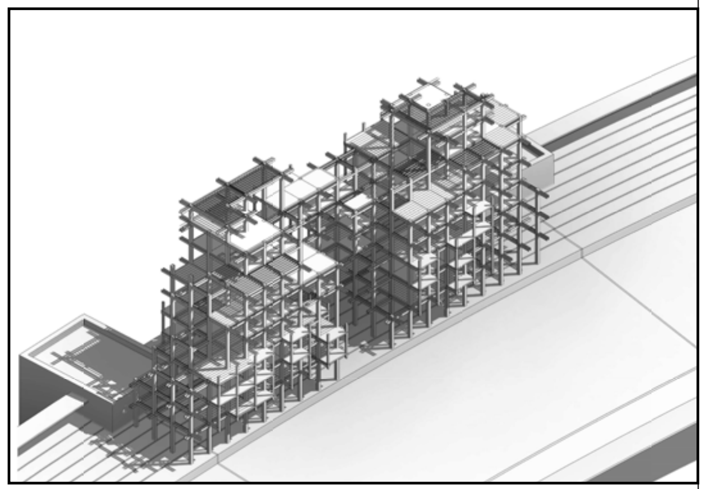
3) CROSS BEAMS (200X100MM) TO SUPPORT FLOOR FIXED IN PLACE.



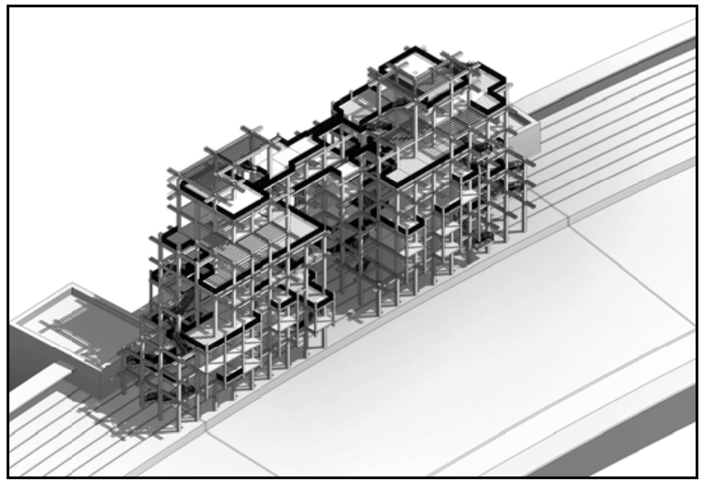
4) STEPS 1 TO 3 REPEATED FOR FLOORS 1 TO 3.



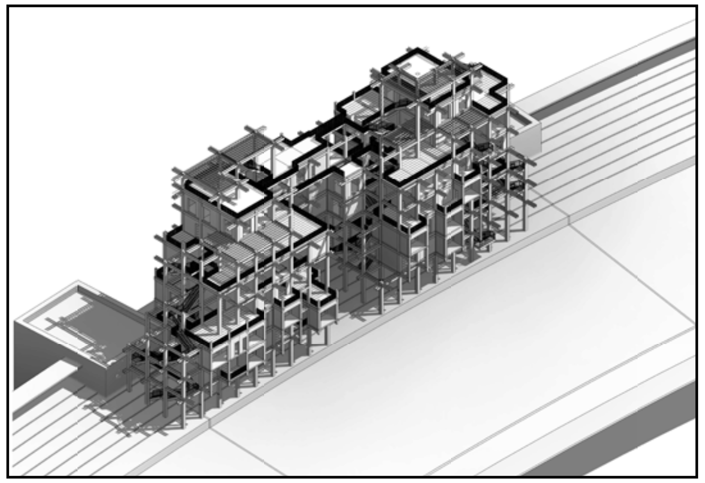
5) STEPS 1 TO 3 REPEATED FOR FLOORS 4 TO 7.



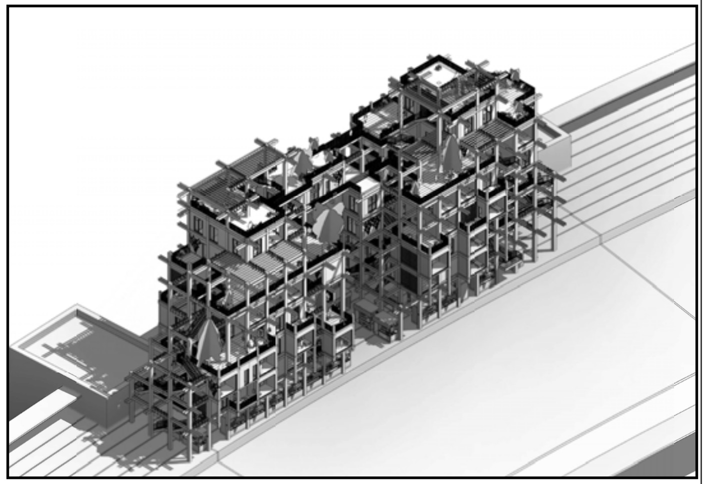
5) PLACE TIMBER FLOOR SLABS AND JOIN TO PRIMARY STRUCTURE.



12) STAIRS AND EXTERNAL CORRIDORS FIXED TO PRIMARY STRUCTURE

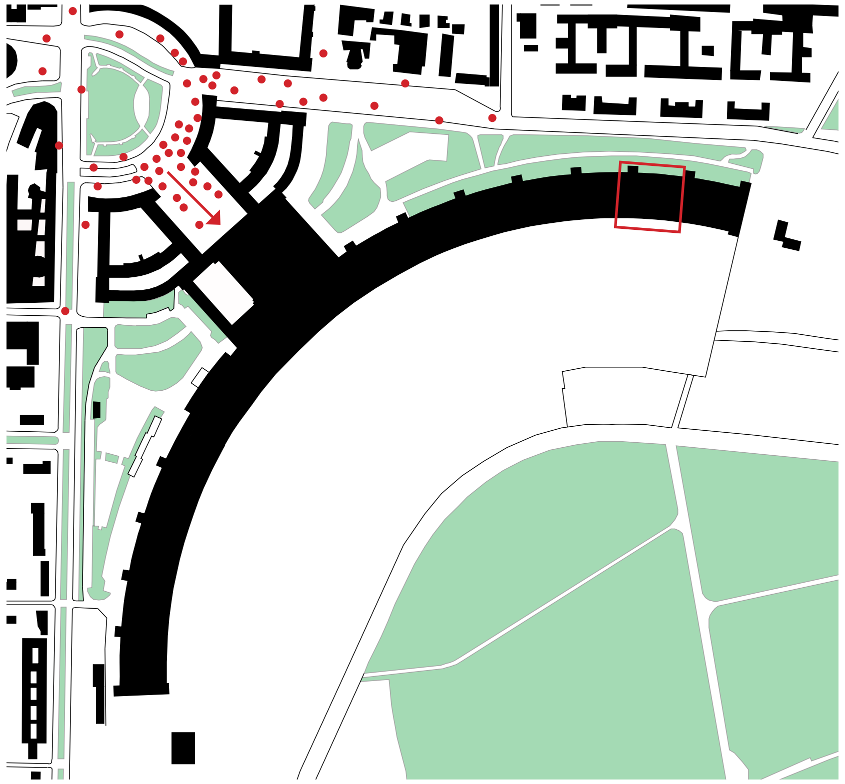


13) SIPS PANELS LIFTED INTO PLACE BETWEEN COLUMNS

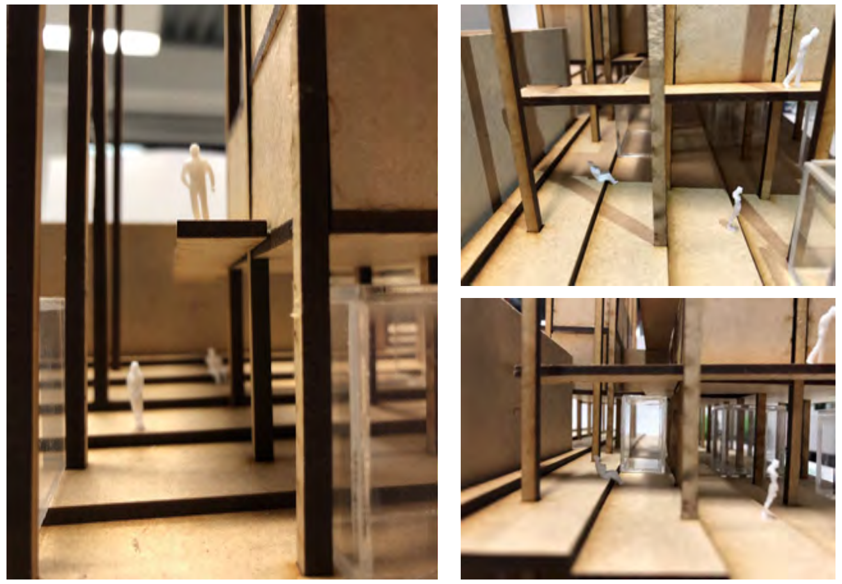


15) VEGETATION AND HABITATION

AXONOMETRIC



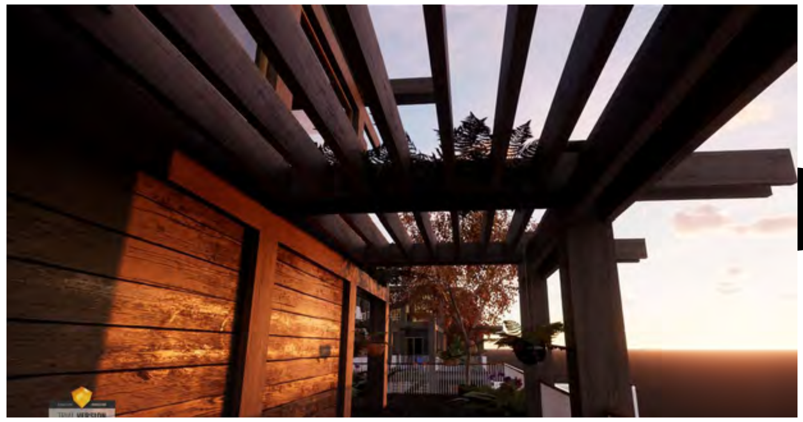
Site Plan & Access

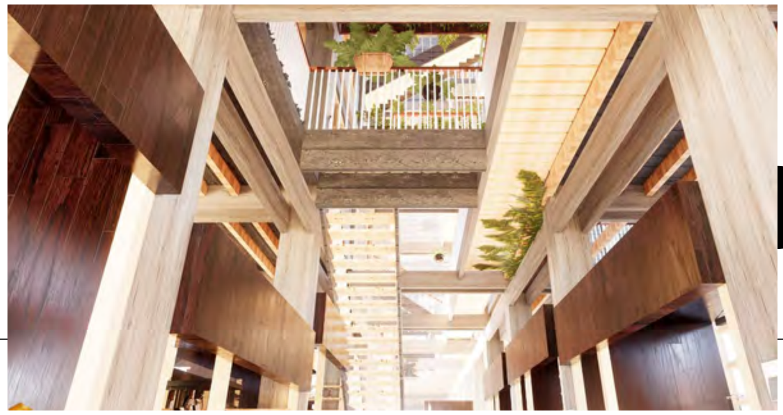


1:100 Model on the Existing Airport

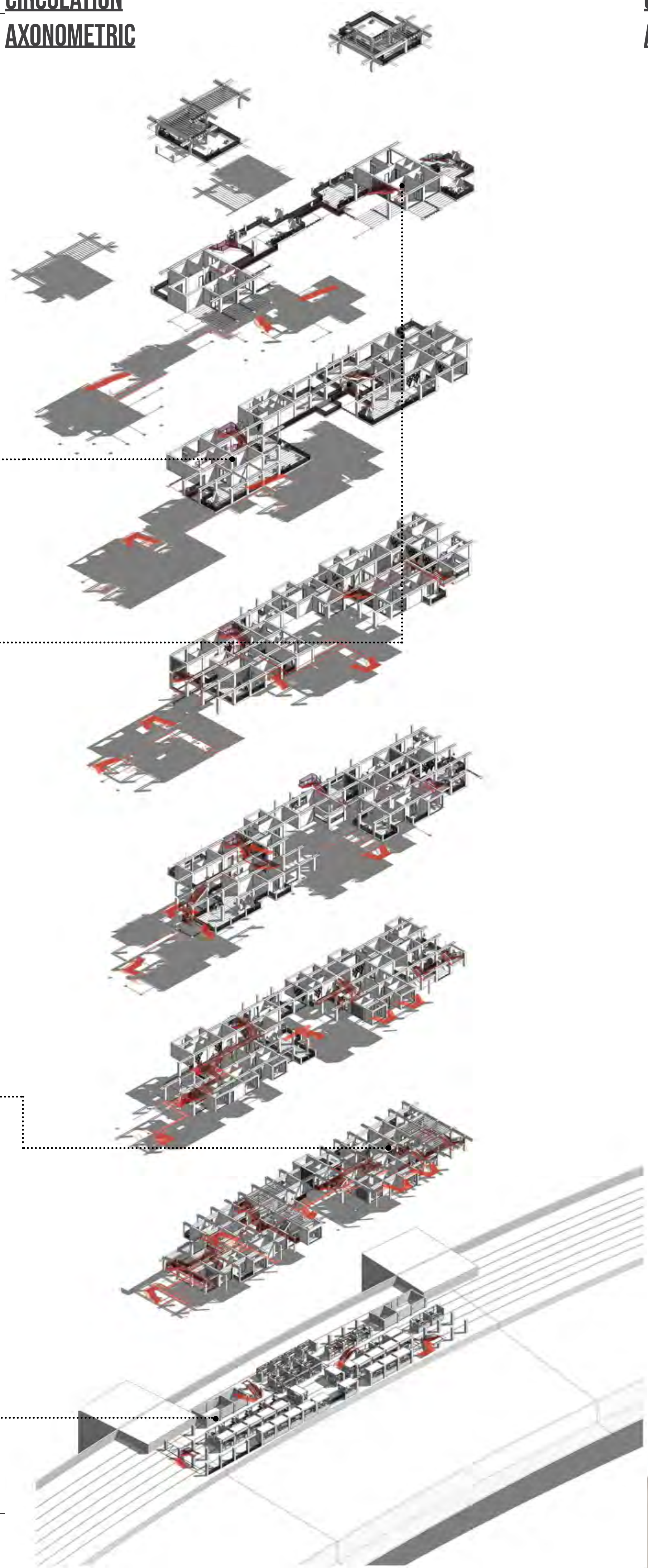
EXPLODED AXONOMETRICS AND JOURNEY VISUALS

the circulation axo illustrates the path through the building by highlighting circulation paths and staircases in red. The visuals show a range of spaces including the market, green space, a bedroom and roof terrace.





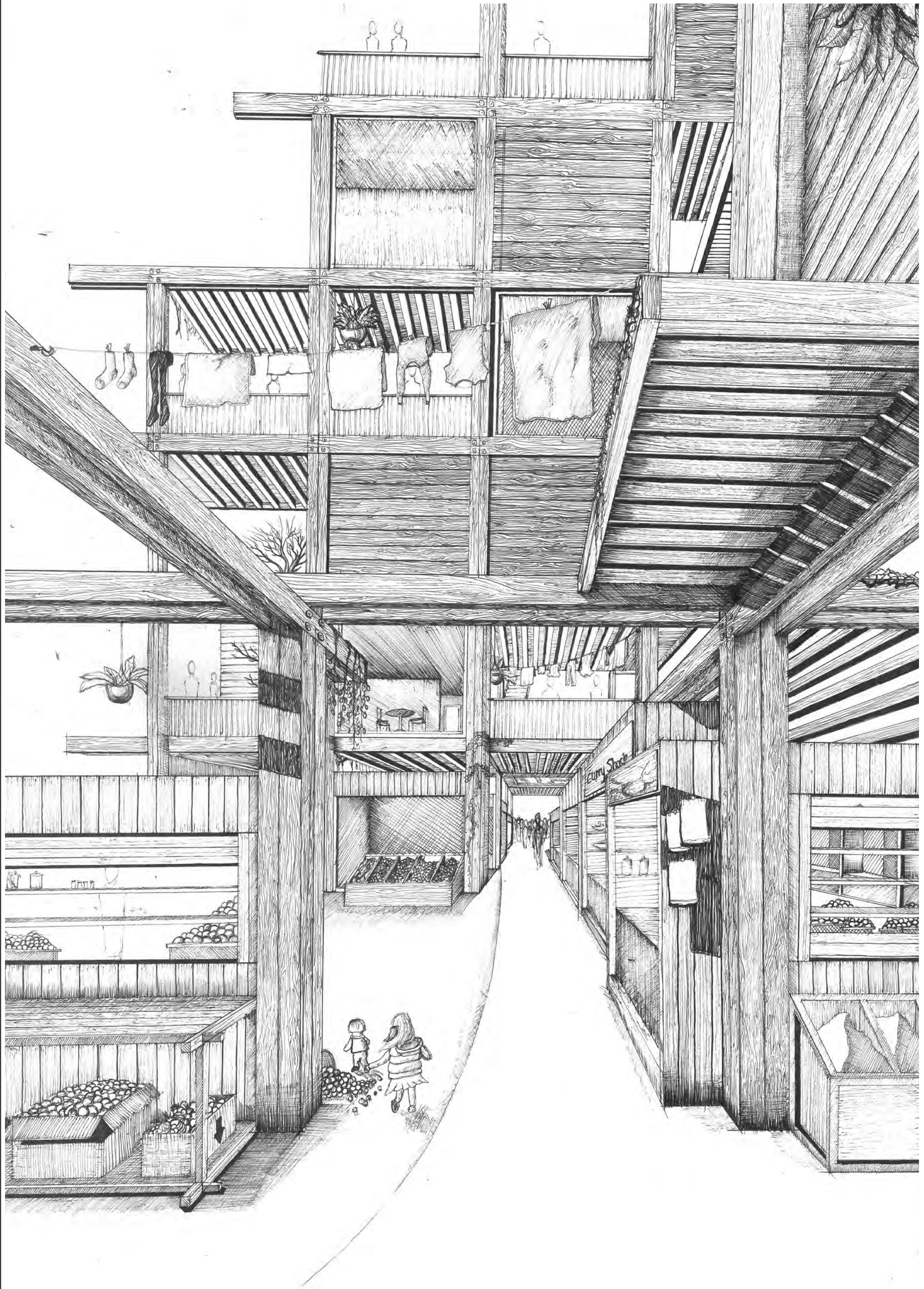
CIRCULATION AXONOMETRIC



COLOURED AXONOMETRIC

MARKET VISUALISATIONS

the market visualisations are intended to illustrate not only the materiality and programme of the market space but also the inhabitation and customisation available to the residents. it engenders a lively and friendly atmosphere of barter and exchange.



MARKET VISUALISATIONS

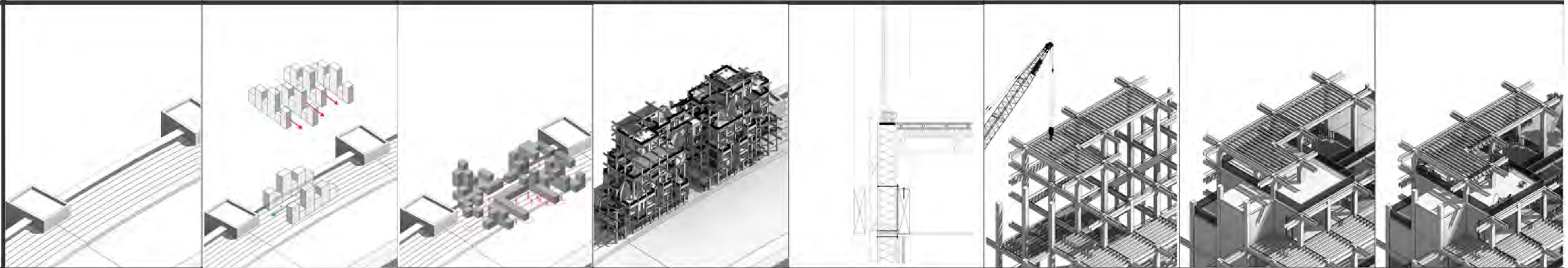
THE FORUM

RIBA Plan of Work 2013

The RIBA Plan of Work 2013 organises the process of briefing, designing, constructing, maintaining, operating and using building projects into a number of key stages. The content of stages may vary or overlap to suit specific project requirements. The RIBA Plan of Work 2013 should be used solely as guidance for the preparation of detailed professional services contracts and building contracts.

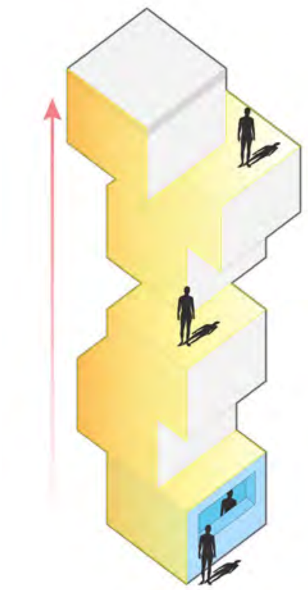
www.ribaplanofwork.com

Stages / Tasks	0 Strategic Definition	1 Preparation and Brief	2 Concept Design	3 Developed Design	4 Technical Design	5 Construction	6 Handover and Close Out	7 In Use
Core Objectives	Identify client's **Business Case** and **Strategic Brief** and other core project requirements.	Develop **Project Objectives**, including **Quality Objectives** and **Project Outcomes**, **Sustainability Aspirations**, **Project Budget**, other parameters or constraints and develop **Initial Project Brief**. Undertake **Feasibility Studies** and review of **Site Information**.	Prepare **Concept Design**, including outline proposals for structural design, building services systems, outline specifications and preliminary **Cost Information** along with relevant **Project Strategies** in accordance with **Design Programme**. Agree alterations to brief and issue **Final Project Brief**.	Prepare **Developed Design**, including coordinated and updated proposals for structural design, building services systems, outline specifications, **Cost Information** and **Project Strategies** in accordance with **Design Programme**.	Prepare **Technical Design** in accordance with **Design Responsibility Matrix** and **Project Strategies** to include all architectural, structural and building services information, specialist subcontractor design and specifications, in accordance with **Design Programme**.	Offsite manufacturing and onsite **Construction** in accordance with **Construction Programme** and resolution of **Design Queries** from site as they arise.	Handover of building and conclusion of **Building Contract**.	Undertake **In Use** services in accordance with **Schedule of Services**.
Procurement *Variable task bar	Initial considerations for assembling the project team.	Prepare **Project Roles Table** and **Contractual Tree** and continue assembling the project team.	The procurement strategy does not fundamentally alter the progression of the design or the level of detail prepared at a given stage. However, **Information Exchanges** will vary depending on the selected procurement route and **Building Contract**. A bespoke **RIBA Plan of Work 2013** will set out the specific tendering and procurement activities that will occur at each stage in relation to the chosen procurement route.			Administration of **Building Contract**, including regular site inspections and review of progress.	Conclude administration of **Building Contract**.	
Programme *Variable task bar	Establish **Project Programme**.	Review **Project Programme**.	Review **Project Programme**.	The procurement route may dictate the **Project Programme** and may result in certain stages overlapping or being undertaken concurrently. A bespoke **RIBA Plan of Work 2013** will clarify the stage overlaps. The **Project Programme** will set out the specific stage dates and detailed programme durations.				
(Town) Planning *Variable task bar	Pre-application discussions.	Pre-application discussions.	Planning applications are typically made using the Stage 3 output. A bespoke **RIBA Plan of Work 2013** will identify when the planning application is to be made.					
Key								
Sustainability Checkpoints	**Sustainability Checkpoint — 0**	**Sustainability Checkpoint — 1**	**Sustainability Checkpoint — 2**	**Sustainability Checkpoint — 3**	**Sustainability Checkpoint — 4**	**Sustainability Checkpoint — 5**	**Sustainability Checkpoint — 6**	**Sustainability Checkpoint — 7**
Programme Duration	**1 Week**	**2 Weeks**	**2 Weeks**	**2-3 Weeks**	**3-4 Weeks**	**18-22 Weeks**	**2 Weeks**	
UK Government Information Exchanges	Not required.	Required.	Required.	Required.	Not required.	Not required.	Required.	As required.

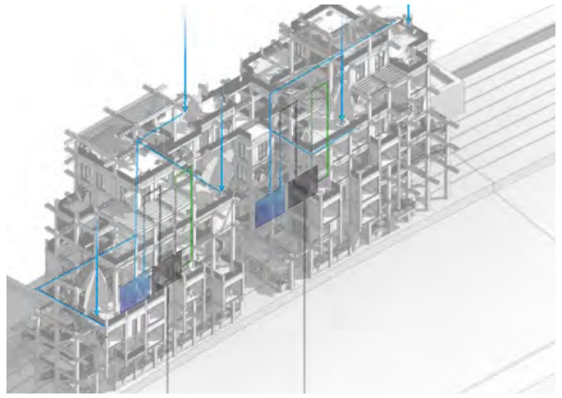


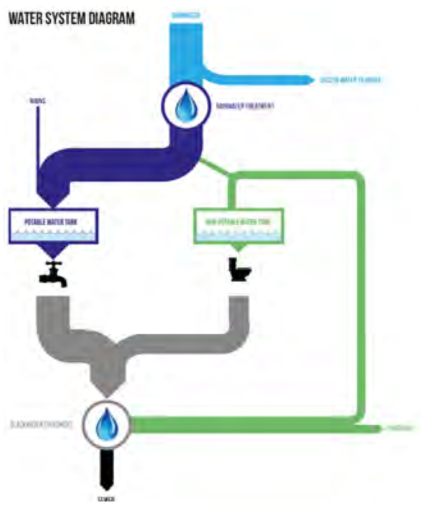
ENVIROMENTAL CONSIDERATIONS

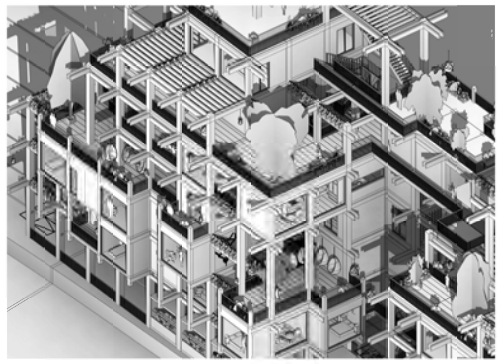
GIVEN THE DENSITY AND SCALE OF THE PROJECT, DAYLIGHTING WAS THE MOST IMPORTANT ASPECT TO CONSIDER. THIS WAS ADDRESSED BY TERRACING THE MODULES RATHER THAN STACKING THEM VERTICALLY.



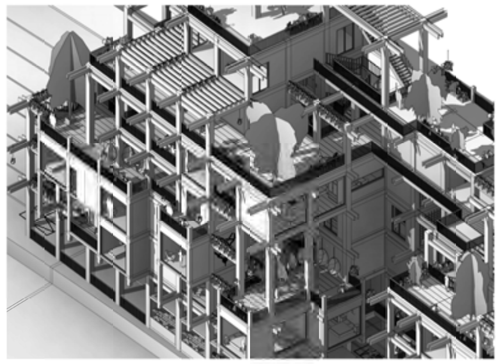
terraced effect designed to improve daylight penetration.



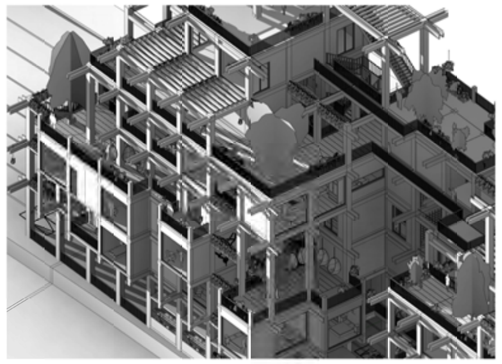




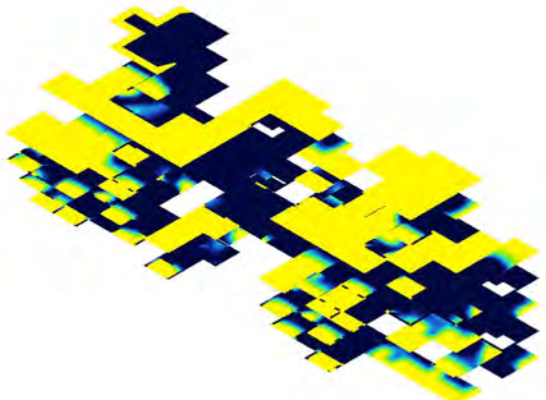
9 AM SHADOW STUDY:
TERRACES AND APARTMENTS ON THE SOUTH AND EAST ELEVATIONS RECEIVE LOW MORNING SUN



1 PM SHADOW STUDY:
TERRACES AND SOUTH ELEVATION APARTMENTS RECEIVE DIRECT SUN



5 PM SHADOW STUDY:
TERRACES AND WEST ELEVATION APARTMENTS RECEIVE DIRECT SUN

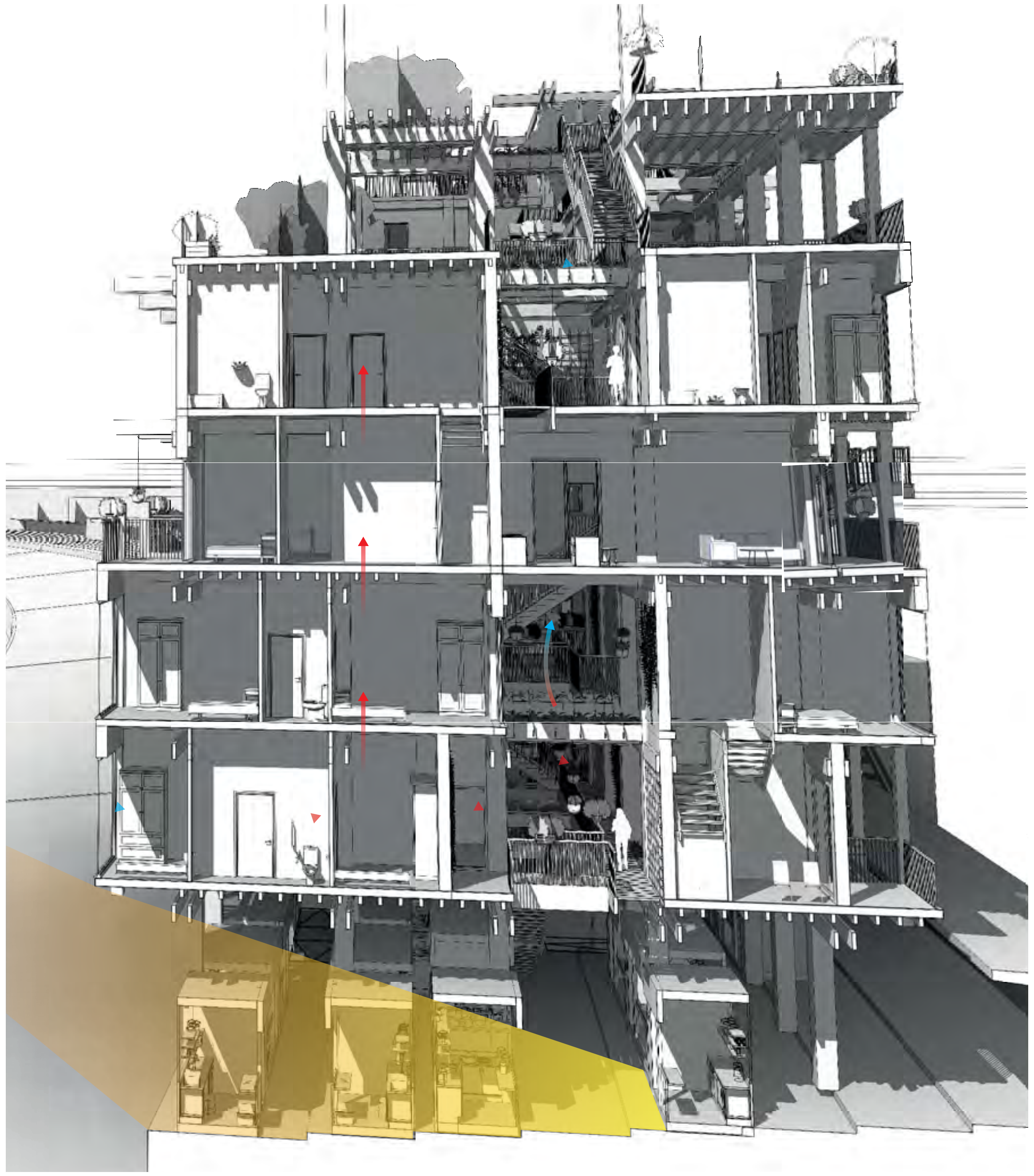


AREAS THAT RECEIVE A MINIMUM OF 3 HOURS OF DIRECT SUNLIGHT A DAY AT THE VERNAL EQUINOX (MARCH 20TH).

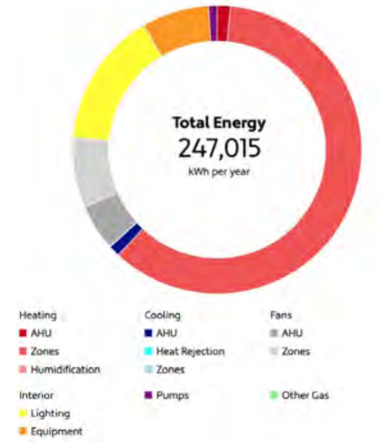
HEAT CONSERVATION:
By stacking the apartments, heating costs are reduced as hot air rises from floor to floor up the building. the timber structure also acts as an insulator, further reducing heating costs.

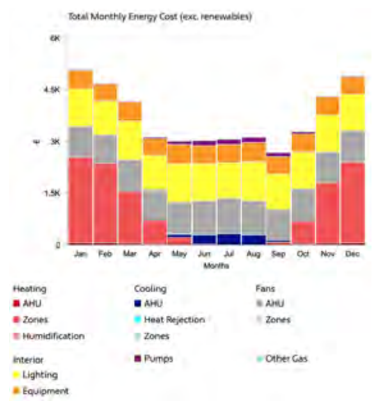
VENTILATION:
External circulation through the centre of the building means that all apartments are open on both sides. on hot days the windows can be opened to create a cross breeze where the central circulation core can act as a ventilation stack.

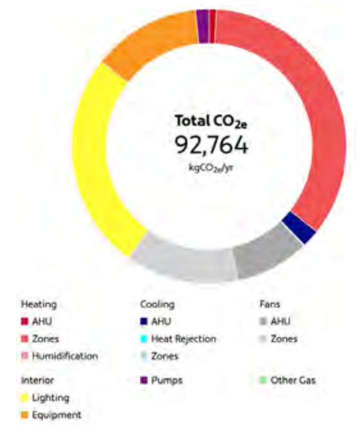
LIGHT PENETRATION:
Generally, floor to floor is 4000mm which allows for taller windows and therefore deeper light penetration. on the market level floor to floor is 5000mm to ensure it receives as much light as possible. the back walls of the market stalls were also made of glass to achieve the same effect.



*DUE TO THE SCALE OF THE PROJECT, COST ANALYSIS HAS BEEN UNDERTAKEN OVER HALF THE FLOOR AREA OF THE BUILDING MEANING THE BELOW TOTALS SHOULD BE APPROXIMATELY DOUBLED.







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-El-Kayed, N & Hamann, U (2018) Refugees' Access to Housing and Residency in German Cities: Internal Border Regimes and Their Local Variations

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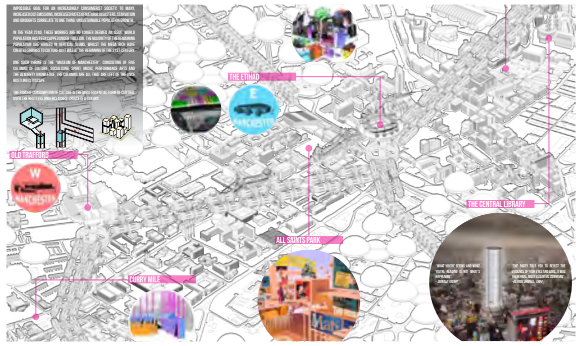
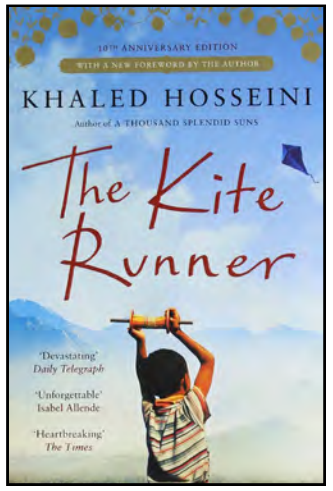
-Migration Statistics DeStatis Statistiches Bundesamt Available at: https://www.destatis.de/EN/Service/InteractiveVisual/InteractiveVisualised.html#migration

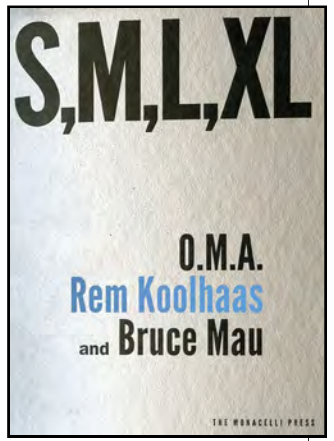
--Migration Statistics DeStatis Statistiches Bundesamt Available at: https://www.destatis.de/EN/FactsFigures/_CrossSection/Refugees/Refugees.html

ALL SCHOOL PROJECT



BOOKS





The Kiterunner was influential in the initial conception of the marketplace. The way it is described through the eyes of Amir in Wazir Akbar Khan is how it was originally envisaged and made manifest in the early sketches.

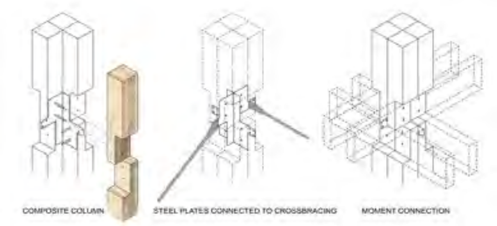
This book was useful in assessing the extent to which we aimed to create a socially engaging piece of architecture. Whilst the complexity of the construction process precluded refugees from participating in the construction process, they could participate in the building and customising of their market stalls.

"Heimat" translates to home and as well as a book, there was a pavilion at the 2016 Venice Biennale. This book was helpful in conceptualising the features and atmospheres we intended our spaces to have; engendering the qualities of a home rather than a house.

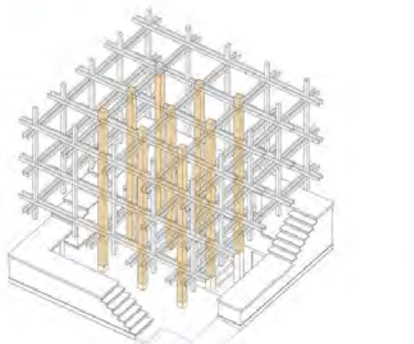
S,M,L,XL helps underpin our ethos to our market design. The deconstruction of the high-street and the end of the retail sector are particularly relevant. The exploration of the site and the typologies of retail, explored in terms of their circulation, are drawn upon from S,M,L,XL.

CONSTRUCTION REFERENCES

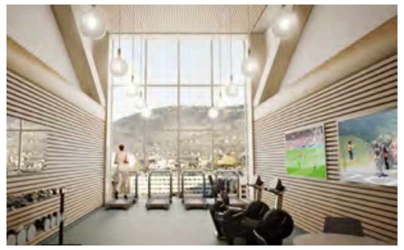
NEST WE GROW: HOKKAIDO, JAPAN KENGO KUMA + ASSOCIATES & UC BERKELEY



Nest We Grow is a pavilion in Hokkaido used to grow plants and vegetables. The food can be cooked and the left overs composted. It is created using traditional Japanese wood working methods. This is the structural system we used, with the parts scaled up to the size of a midrise building, drawing on the precedents to the left.



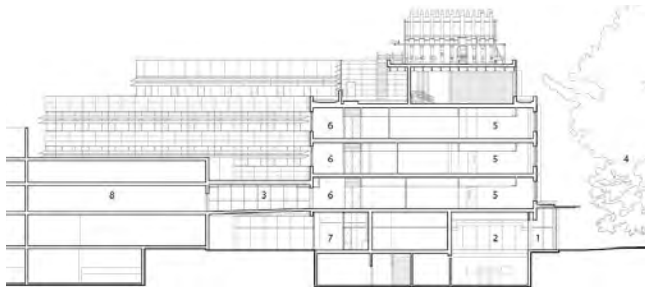
TREET: BERGEN, NORWAY ARTEC AS



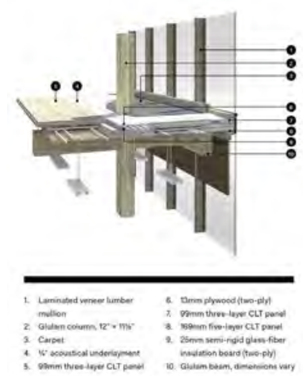
Treet is a 14 storey timber building standing 52.8m tall. The primary structure is made of glued laminated columns of sized 405 x 650mm and 495 x 495mm. The diagonal truss work is 405 x 405mm. Cross laminated timber is used in the staircase, the lift shaft and parts of the inner walls and balconies. The modules were assembled on site and achieve Passive House Standards in regard to insulation and air leakage.

EARTH SCIENCES BUILDING: VANCOUVER, CANADA PERKINS + WILL

The Earth Sciences Building is built of 1,317 cubic metres of engineered wood which has been calculated to store 1,094 tonnes of carbon. The building is made of glulam columns with a CLT canopy that wraps around three sides of the building to provide rain cover. The building also contains a cantilevered engineered timber staircase that appears to float.



WOOD INNOVATION DESIGN CENTRE: PRINCE GEORGE, CANADA - MICHAEL GREEN ARCHITECTURE



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