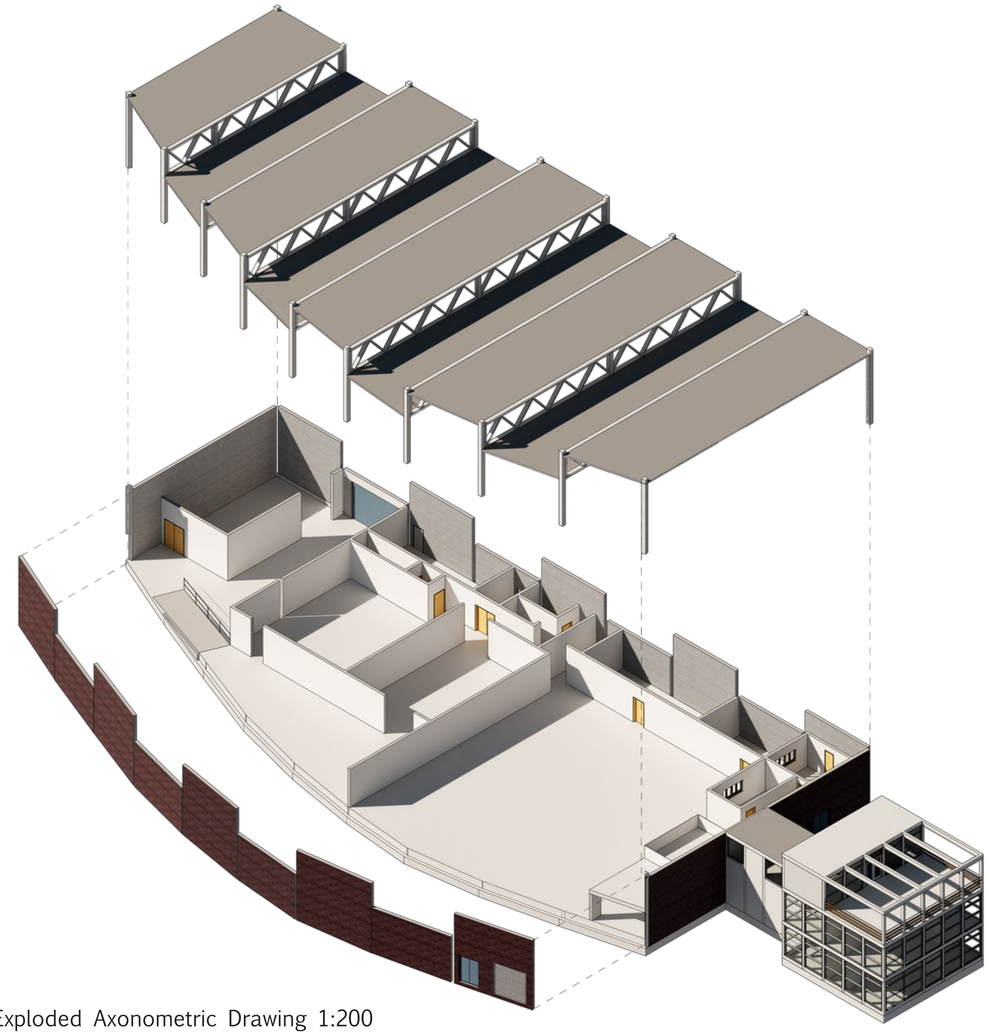
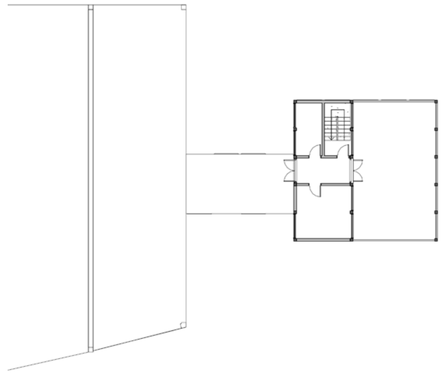
The Eagle Building

Charlie Brackpool, Poppy Casson, Mark Kovacs- Biro and Harry Monaghan

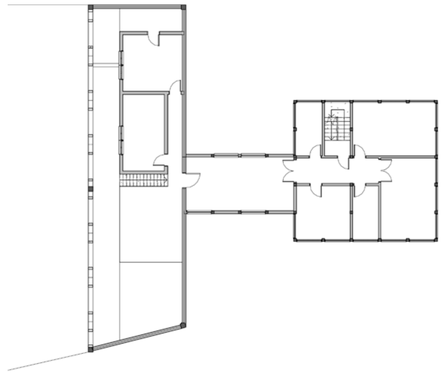
SITE ANALYSIS



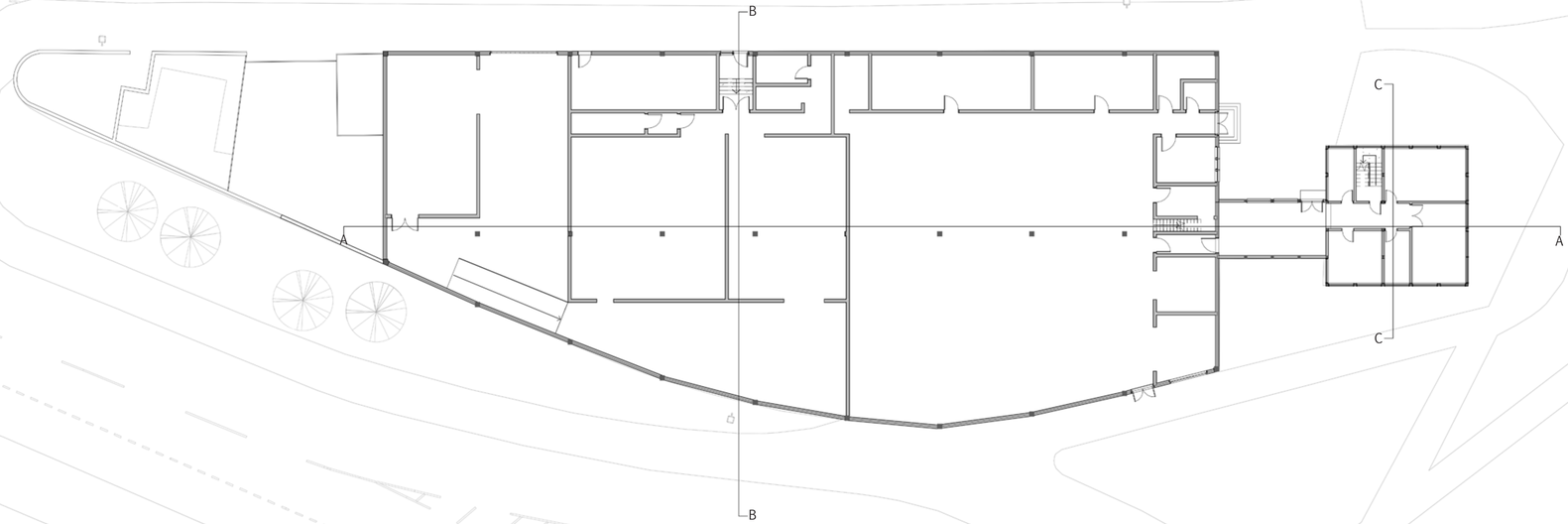
Exploded Axonometric Drawing 1:200



Second Floor Plan 1:200

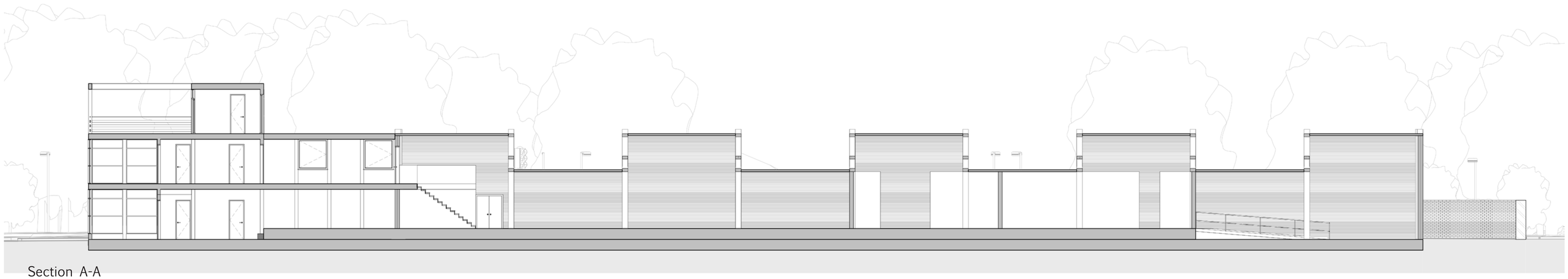


First Floor Plan 1:200

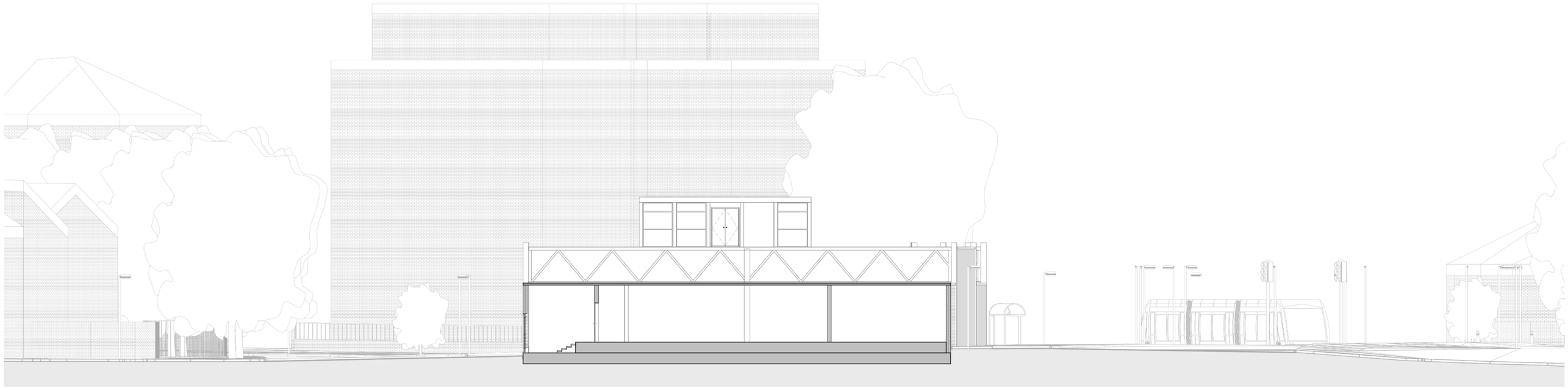


Ground Floor Plan 1:200

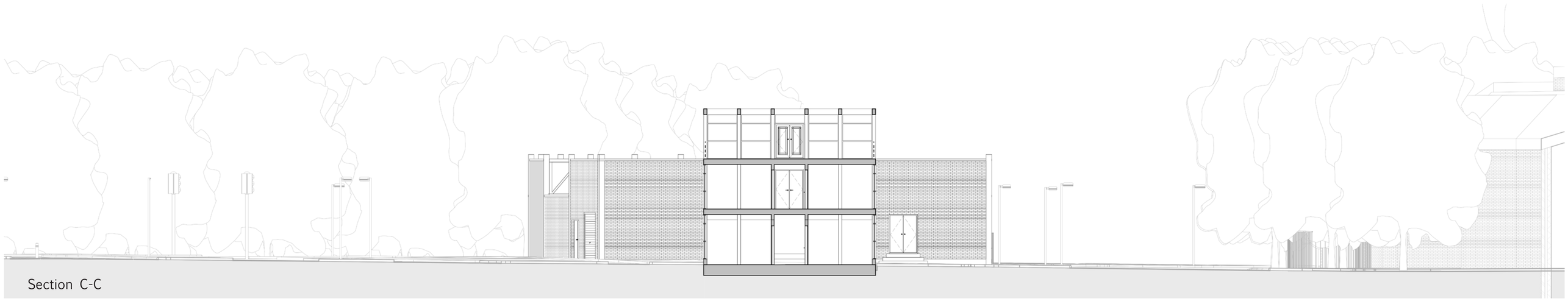
1:100 SECTIONS



Section A-A



Section B-B



Section C-C

South Elevation 1:100

East Elevation 1:100

North Elevation 1:100

West Elevation 1:100

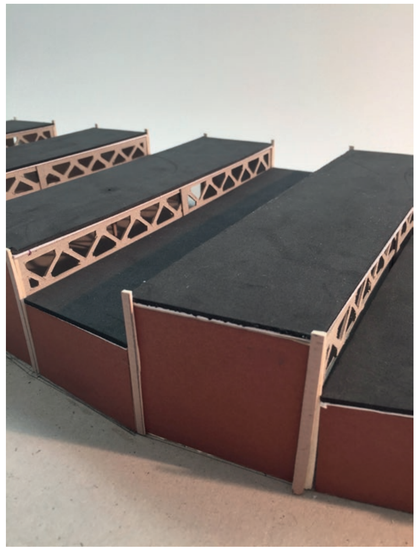
THE ORIGINAL BUILDING

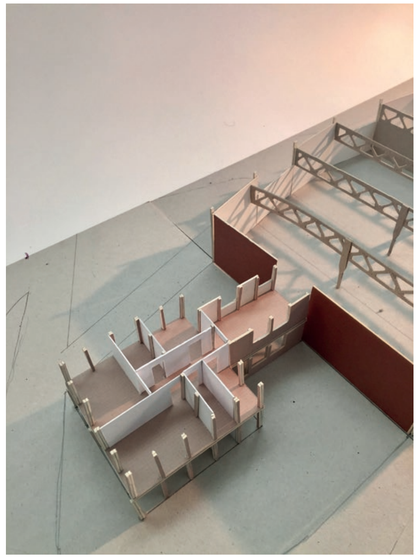
Analysing the design and structure of the existing building.

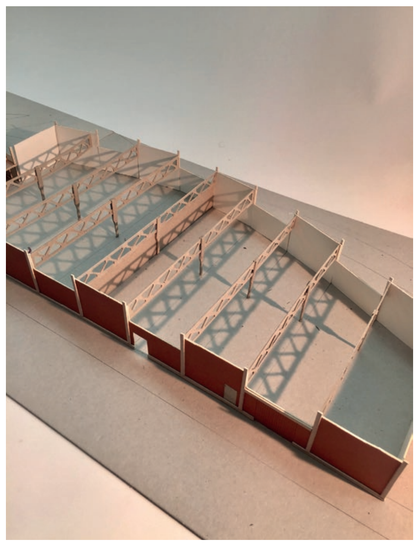
Shown above is the appearance of the original building as seen from the nearest tram stop.

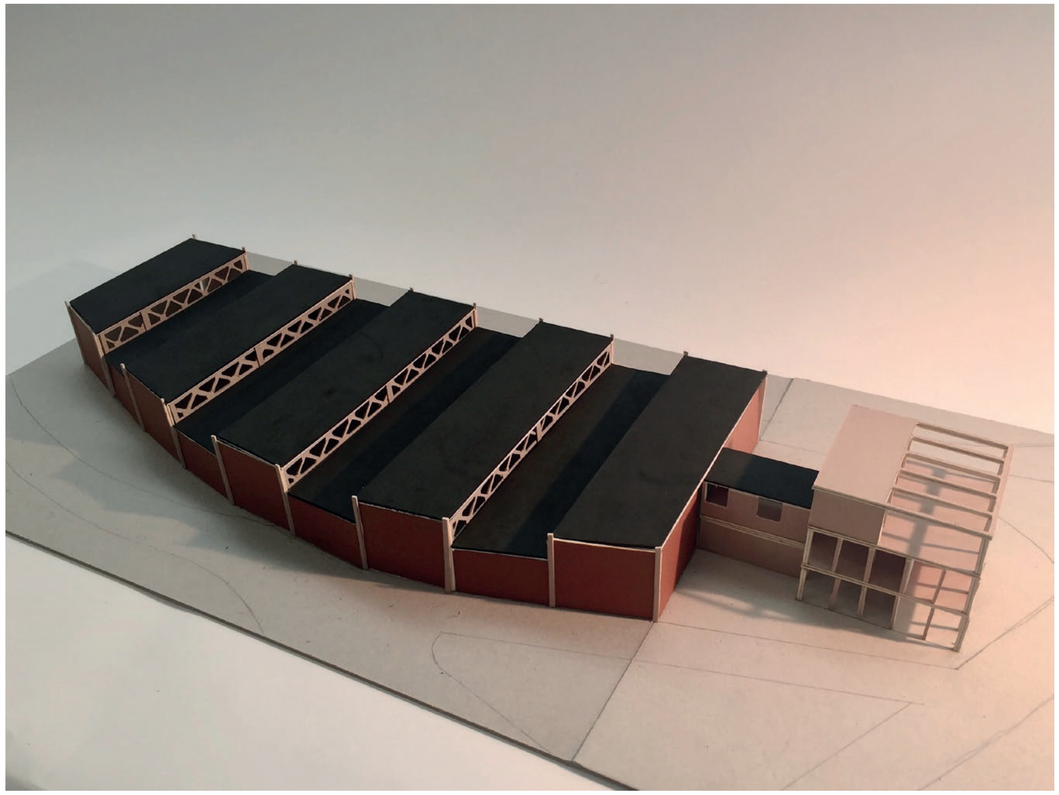
We felt that the proportions and layout of the administrative end of the warehouse were interesting and identified this as something to carry into the future design.

The building is very successfully lit by windows which shine light through trusses. This structure seemed very robust and, again was identified as an aspect of the building that should be maintained.

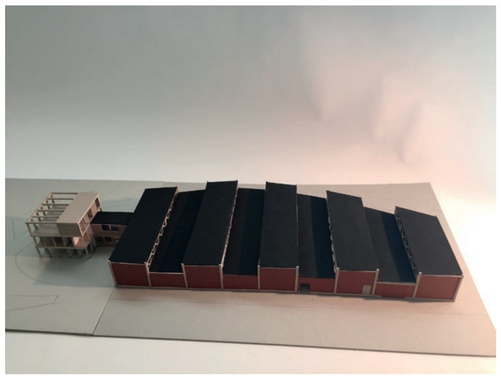


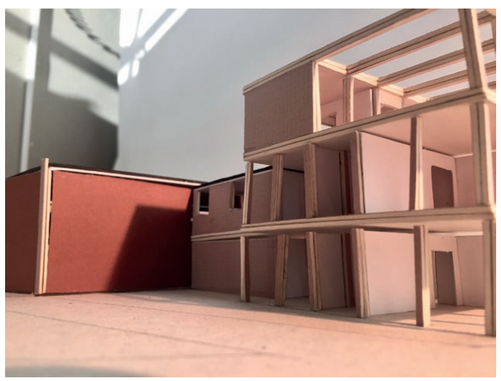


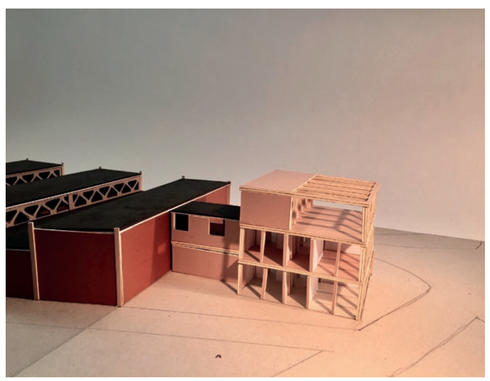




We decided to model the original building in a fashion that emphasised the building's structural elements and gave a good sense of the materiality of the wall and roof structures. Therefore, the key parts of the building were the trusses and columns in the main warehouse and the smaller columns that hold up the administrative end of the building.







SITE ANALYSIS

Identifying transport routes, key places and observations

Opportunity to expand on the West end

Top light openings

Views out over the city from roof terrace in the cube

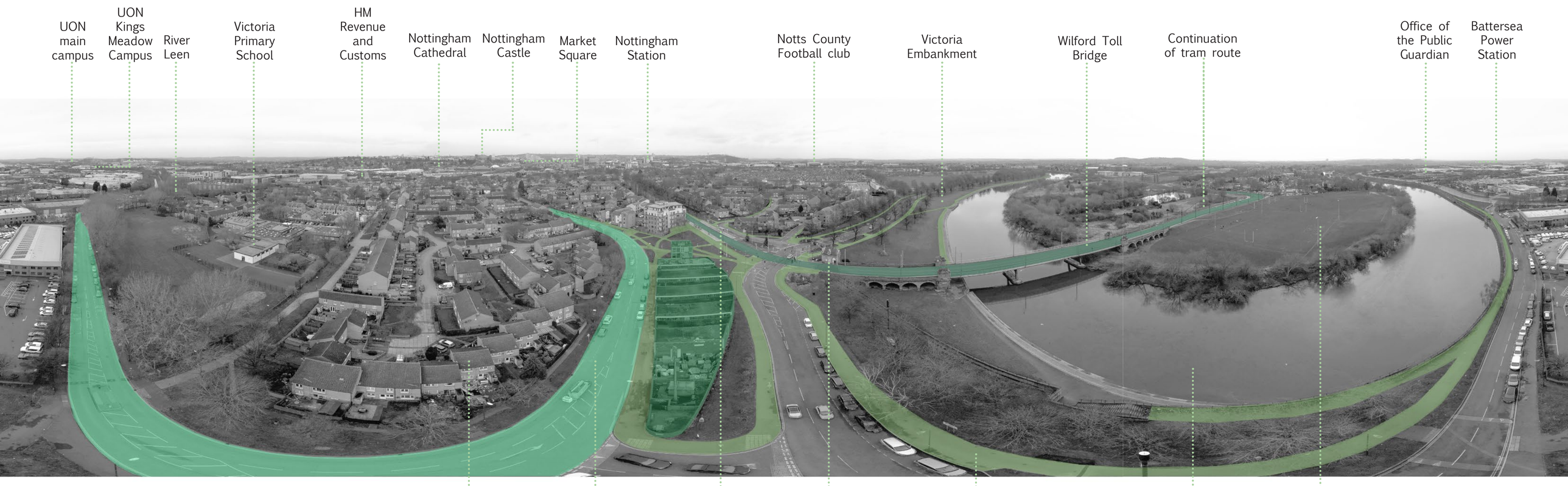
Building squeezed in between two roads

Possibilities for green roofs to encourage wildlife

Close proximity to the river Trent, with a nice view

Plants could be grown over the frame of the building

Straight transport route to the inner city



Repetitive roof line

Concrete column detailing

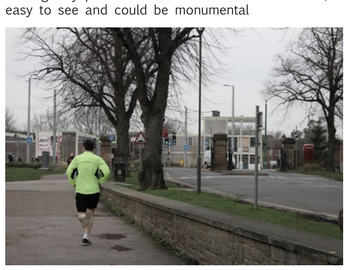
Space to expand the cube in all directions

Emphasise the cube shape

No emphasis on entrances currently, it is unclear where to go

Large drops on some doors, hard to access

Strategically placed at the end of the Embankment, easy to see and could be monumental



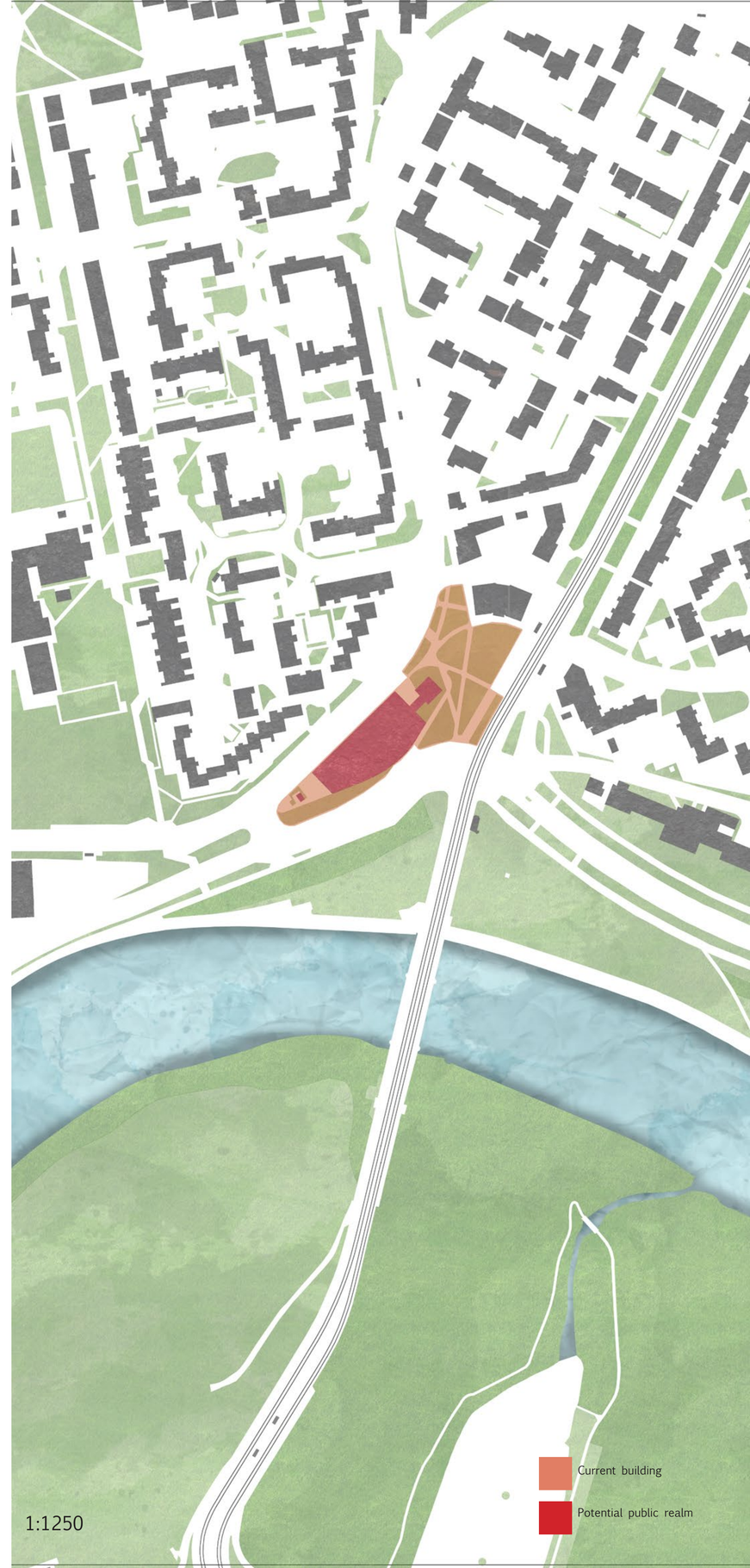
Posibility for nature to be brought into the city through more plants and trees

View along Queens Walk

SITE ANALYSIS

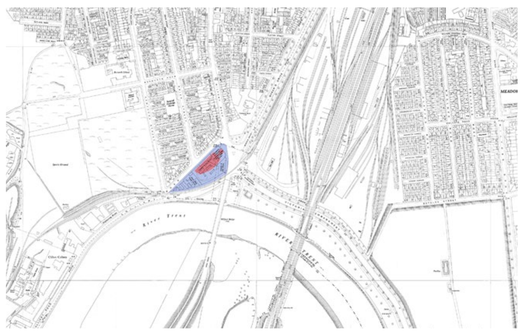
Analysing the urban condition, opportunities and constraints

1:500



1:1250

Historical maps



1950

Before the building was constructed there was a technical college and laundry & dye works on the site.

There was “slum” housing to the North and West of the site, with an extensive railway to the East.

1960

Following the Beeching report the reduction of british railways changed the area greatly, clearing the space to the East of the site, which would later become residential.

The Railway that was removed was the first line built for the Grand Central Railway.

1970

The demolition of neighbouring slum housing to make way for the new Radburn estate layout of the Meadows and two nearby schools.

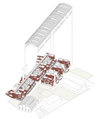
The building become more isolated to surounding housing through the loss of Briar Street and an introduction of the faster cut through road, Robin Hood Way.

PRECEDENT STUDIES

Finding examples of creative reuse projects, public space redevelopments and a nursery building

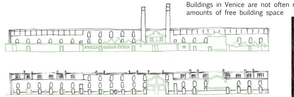
RESIDENTIAL BUILDING REFURBISHMENT
by Studio Macola
VENICE, ITALY

The renovation of this site famous for decorative glass into residential apartments comprises two linear blocks which sit along the existing brick framework, with window openings lining up with original plans. The two blocks sit either side of a covered main square, which encourage social interaction between residents and breathes new life into the old defunct factory district. One block employs a straight facade, however the other is fragmented to allow the maximum natural light into the complex and into the interiors, which use sharp white lines to illuminate the flats. Due to the historical nature of Architecture in Venice, this project stands out as a new development, and thus the architects worked hard to ensure the original building was respected.



The two spearate blocks

Buildings in Venice are not often refurbished, due to the historical style and small amounts of free building space



Old vs New

1750 2019

THE GREEN BUILDING
by FER Studio
LOUISVILLE, USA

Structural beams left exposed demonstrate how the roof is held up, and makes the building seem more industrial in it's function

They can also create nice light patterns on the floor below due to shadows

This centre for arts and sustainability sits in the centre of the pedestrian friendly 'New Louisville' arts district, after the area fell into general disrepair. The former dry good store was given new life through retaining the exterior shell but adding a huge core, which included a 40 foot atrium entrance. TEK stands for form, environment and research; which aligns with the buidling's design exploration of the relationship between sustainability and space, seen in the structural references to the previous function and new renewable materials. Existing old growth wood members have been blasted with corn husks and planed down for reuse in plain view throughout the building. The aluminum and glass core recesses to the back to draw people to the entrance on the other side, Though some of the spaces are long and narrow, natural light and outdoor views flood the interior through an ascending glass spine that bridges all three floors and breaks the roof into three planes.

1895 2009

BRICK ARCADE PUBLIC SPACE
by MMX
JOJULTA, MEXICO

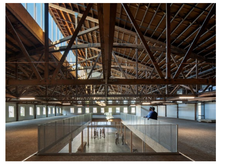
Arches as a shape are thought of as strong and inviting, and easy to achieve in brick

This redeveloped public square was completed as a response to the devastation of the 2017 earthquake. Brick arcades are traditional in the architecture that traditionally surrounds the site, and they arranged methodically like fans for people to meet under. Trees were a big influence for the space as they were one of the few "structures" left after the quake. "The generation of a civic square with a new identity was only possible by understanding and ordering the previously disarticulated spaces and giving each of the spatial elements a new role while keeping a strong relationship between them," MMX said.

"Spaces that recognise and fortify the transit, pause, leisure and encounter of their users."

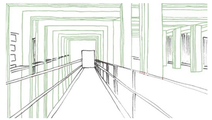
2019

REDFOX COMMONS
by Lever Architecture
PORTLAND, USA



In the redevelopment of this old hay bale factory, using orginal wood and weathered steel nodded back to the original industrial design pallete of the factory district location. The large rooms with high ceilings were an appropriate outline for creative group work spaces, and original supporting wood trusses were left intact to demonstate the beauty of wood as a material. The contrast between natural materials to mad made (wood to steel) is eyecatching and gives a flowing rhythm to the facade with the vertical thin panels joining at the roofline. Added windows to the roof bring more natural light into the deep rooms, to illuminate workspaces.

Rafters are left exposed to hint at the previous function of the building, and also how the large pitched roof is supported



Elements that relate visually to the Eale Building are in green

1940 2019

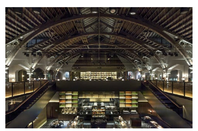
1750 1800 1850 1900 1950 2000 2020

1864 2005

GERMAN GYMNASIUM
by D&D
KINGS CROSS, LONDON

German Gymnasium is named due to the Resturant's old use as a German Gymnasium, funded entirely by the German community in London. The building was designed by Edward Gruning and held the indoor events for the London Olympic Games in 1866. Much of the interior was kept similar in the rafter details in the roof and historic arching brickwork, however in the renovation another mezzanine level was added to allow for more diners. This level is reached by a bold black ribbon staircase, which runs symmetrically along and down the sides. The large open pitched roof is appropriate for a resturant setting, as sound travels up and away from diners; thus keeping noise levels comfortably lower. Some structural roof elements could also be retained in the Eagle Building, as they have been here.

Historical features have been retained on the interior and exterior, seen in the columns

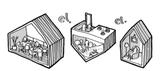


Daycare example

CHILDREN'S HOME
by CEBRA
KERTEMINDE, DENMARK

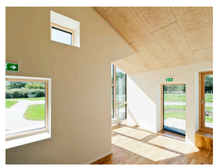
2014

Random windows are playful and allow more light from above when placed to the top of the building



Sketch by CEBRA showing how the pitched roof can make a user feel at home, which is necessary in a nursey setting

This Danish nursery was built in a way that makes children feel safe and at home when they are without their families, through beautifully well lit rooms that use pitched roof shaped windows, deep set so they can be sat in. Existing old growth wood members have been blasted with corn husks and planed down for reuse in plain view throughout the building. The aluminium and glass core recesses to the back to draw people to the entrance on the other side, Though some of the spaces are long and narrow, natural light and outdoor views flood the interior through an ascending glass spine that bridges all three floors and breaks the roof into three planes. One block employs a straight facade, however the other is fragmented to allow the maximum natural light into the complex and into the interiors, which use sharp white lines to illuminate the building.



SHOWROOM
by Why Architect Group
MASHHAD, IRAN

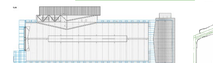
2019

This public showroom was converted from an old residential building in the heart of a denise Middle Eastern city. A sweeping staircase has been added to the front, which leads up to a roof terrace that maximises user comfort with shade providing plants. Unpredicted commercial development meant much of the nearby public space had been lost, so the aim of this project was to respectfully open up a space that fitted in well with the contextual red brick and residential building situated there previously. The addition of scrap metal and steel panels give an industrial feel to the building, and outlines the red brick while green plants contrast to linear elements. The sweeping staircase that directs upwards invites people inside from the street, and other elements such as full height windows encourage users to look inside the gallery space.

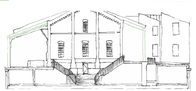
Mixing materials makes the building stand out in a subtle way and modernises the old brick

HANSAS PERONS
by Sudraba Arhitektūra
RIGA, LATVIA

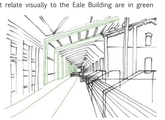
1922 2020



Roof plan showing the proportions- the building is long and fairly symmetrical like the Eagle Building



Elements that relate visually to the Eale Building are in green

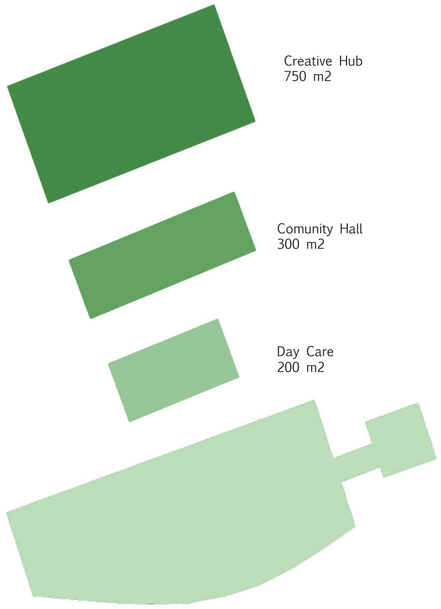


This old concert hall in Latvia is a symetrical design with detailed brickwork, making it a large task to try and renovate. The sweeping staircase that directs upwards invites people inside from the street, and other elements such as full height windows encourage users to look inside the gallery space. Rafters are left exposed to hint at the previous function of the building, and also how the large pitched roof is supported.

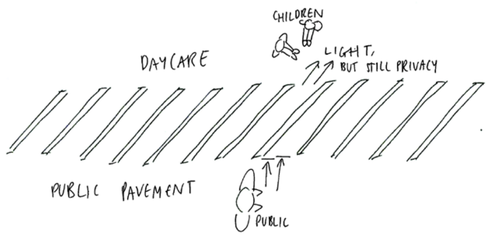
STRATEGIC APPROACH FOR CREATIVE REUSE

DESIGN DEVELOPMENT

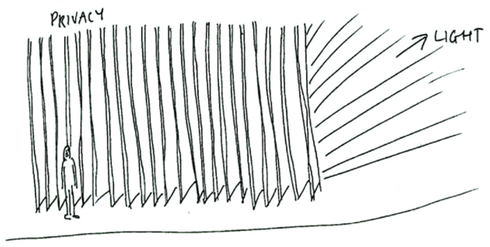
Responding to opportunites and dealing with constraints



Space requirements per section according to the brief

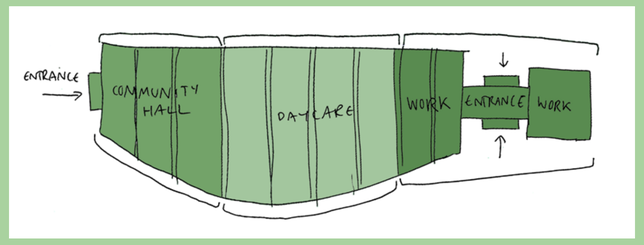


Demonstrating how light can still reach the interior

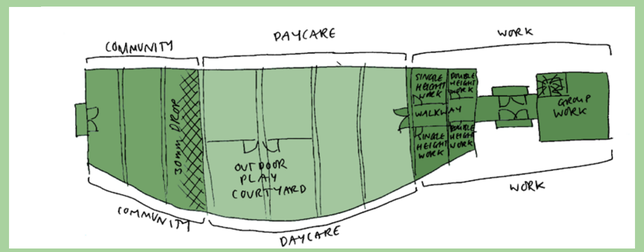


By placing tall panels on a diagonal close together, it is difficult for the public outside to see inside to the nursery, but light is still allowed to fall through the gaps to illuminate the inside

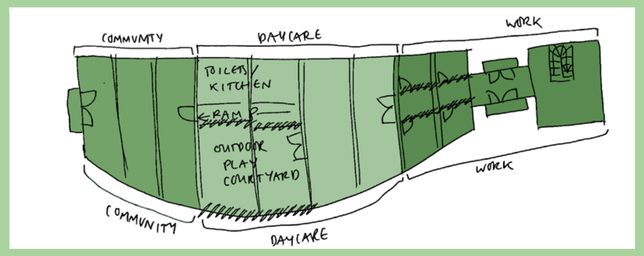
Placement of each area and access routes



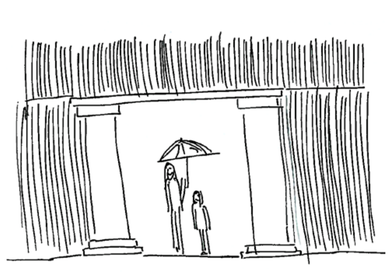
Showing where the different areas laid out in the brief would be placed



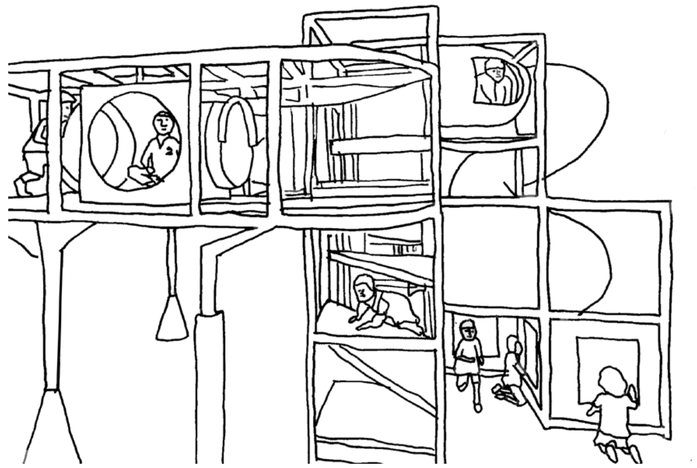
Acknowledging what elements could be placed where according to function



Demonstrating access routes, and where perferated wooden beams could be places to allow light through but still privacy for the interior

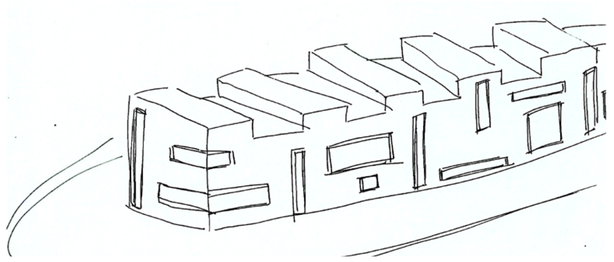


Monumental enrances to encourage people to come inside, similar to this inviting stepped entrance to a showroom by Why Architect Group

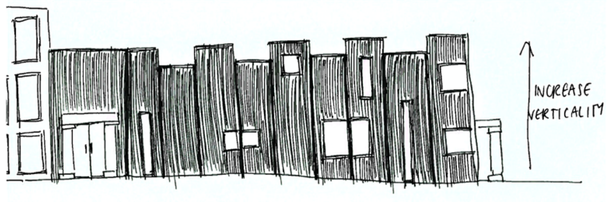


These play stairs for children to access the upper floor create a safe way for them to have independance, and a fun way of moving around. There is ample space in the daycare centre for the structure, and it would be well lit due to the light allowed through the wooden panels.

Cladding the building with vertical wood and large glass windows to increase verticality and maximise light



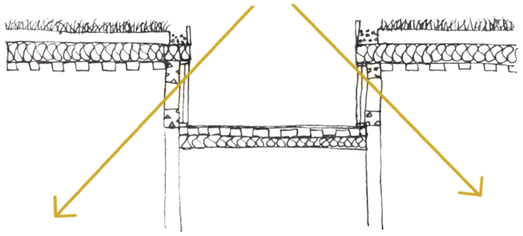
Ribbon windows could be used on some corners, to allow light throughout the day



By placing wooden cladding that runs up the building, it increases the overall verticality and makes the building seem monumentally taller from the ground

STRATEGIC APPROACH FOR CREATIVE REUSE

MATERIAL DEVELOPMENT



Roof Insulation

A altering warm and cold roof stucture allows the window opens to stay at a maximum, allowing maxinmum light into the builing below.

Window Type 1

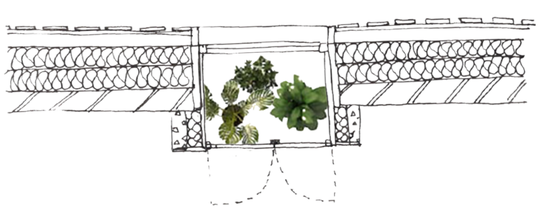
Deep resess window with a CORE-TEN surround

Window in line with the interior wall, helps create privacy

Window Type 2

Hidden windows

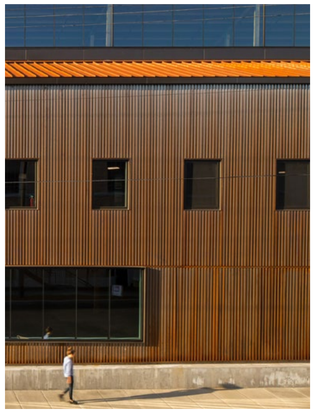
Creates a privacy inside, and a playful way to to bring greenery into the building and alow private views out while keeping the inside private

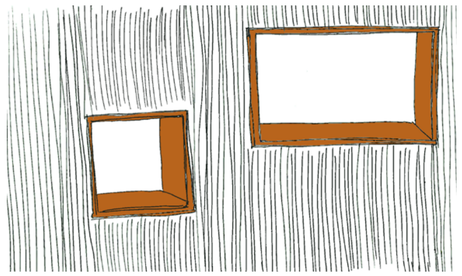


Window Type 3

Internal Greenhouse

Another window type that allow you to bring greenery into the building and allow children in the day care to look after and grow plants all year.

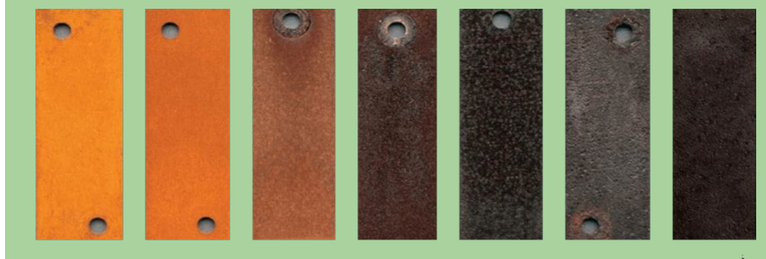




Adding depth to windows increases the privacy inside, whilst still allowing natrual light through

REDFOX COMMONS by LEVER ARCHITECTURE uses wood and weathered steel as contrasting man made to organic materials

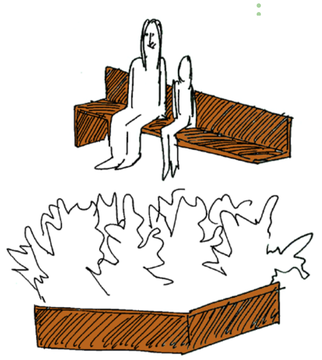
Materials Pallette



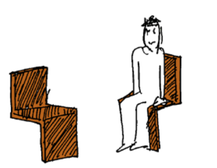
Diagramming how steel changes colour over time as it weathers due to chemicals present in the steel, air and rain

Analysing the materials already present in the building and which ones to keep

Using weathered steel with wood over the already present materials would keep the industial feel but give an homely organic comfort due to the natural wood



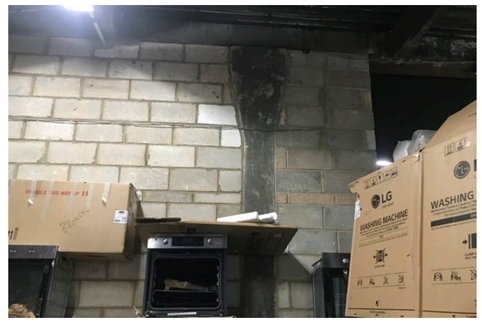
The CORE-TEN could also be used outside for furniture, to encourage group interaction and people to chat in the spaces outside



Existing material palette

The concrete 'bones' of the office block on the end create a nice structural sillouette to work from

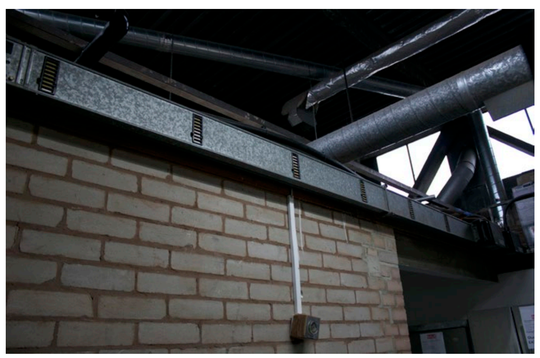
We have decided to contrast to the existing dull and drab industrial palette of mortar, concrete, brick and pipes with organic light wood panels and CORE TEN organge steel, which will weather over time. These new materials will make it look more modern, respect the original industrial purpose of the building, and show which parts are new and which were original.



The breezeblocks used as a wall material inside make the walls seem cheap and cold, which would need to be improved aesthetically and termally during renovation

Dark brown brick and mortar are the traditional buidling materials for this area of Nottingham

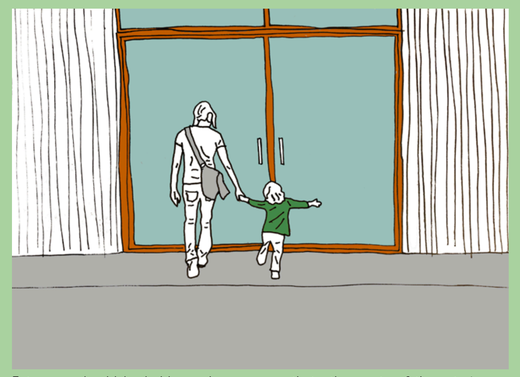
Inside there is a mixture of plaster, paint, concrete and glass



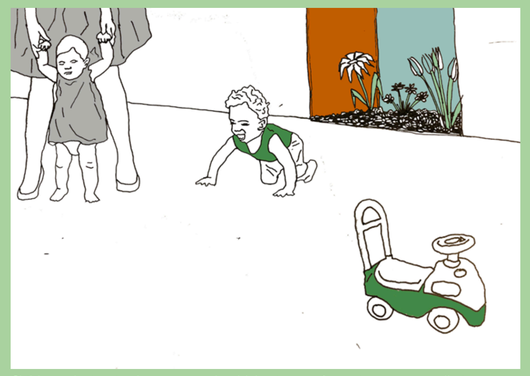
Pipes run the whole way through the building, and the exposed nature of them makes the building seem industrial and not homeley or office like

STRATEGIC APPROACH FOR CREATIVE REUSE
ERGONOMICS AND DETAILING

The cafe should have easy and open access to the till, and tables, toilets and access routes should be made obvious



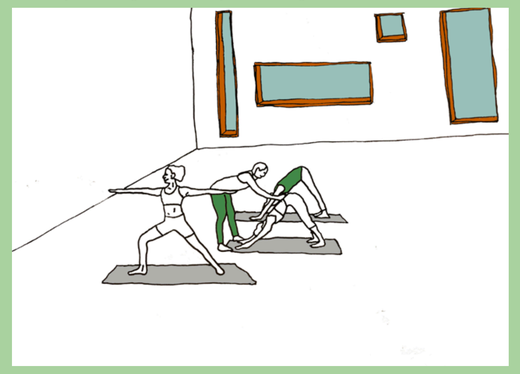
Entrances should be bolder and more open that other parts of the exterior, so new visitors know where to go and the fucntion is clear



Children playing in the nursery should be in a safe environment at all times, with enough natural light coming into the room

Natural light is also important in the creative work space, so people can see what they are doing and creativity is encouraged

The garden area outside can include furniture also made from CORE TEN steel will encourage visitors to hang around and chat outside the building



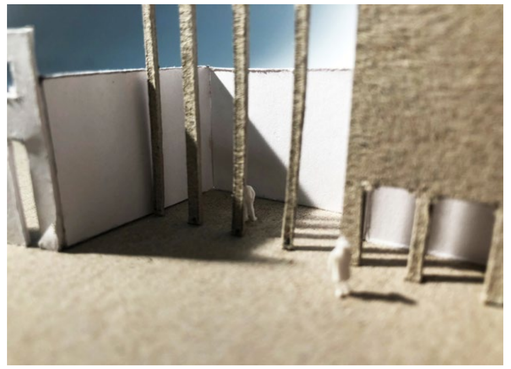
The community hall should be bright and airy to allow for many possible uses such as sports, gatherings, occasions and classes

The roof garden lessens the amount of space lost overall on the site, and gives another place for cafe users to sit

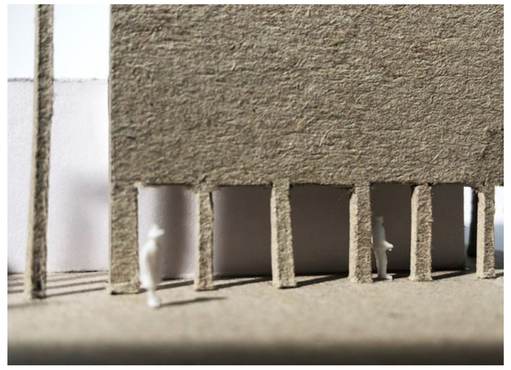
The panels cladding the nursery section allows light to come into the building but still retails privacy for the children inside

Making interim models to test visual and structral effects of the chosen design

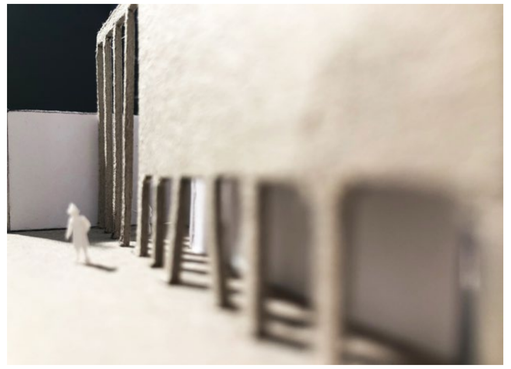
MODEL 1



The entrance facades are penetrated by light, to blend outside and inside



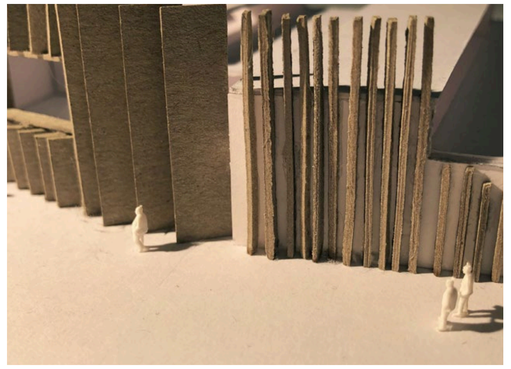
The geometric and repetitive use of geometry gives a regualrity to the facade



A loggia is created in the cube, which can shelter people outside and create more internal space

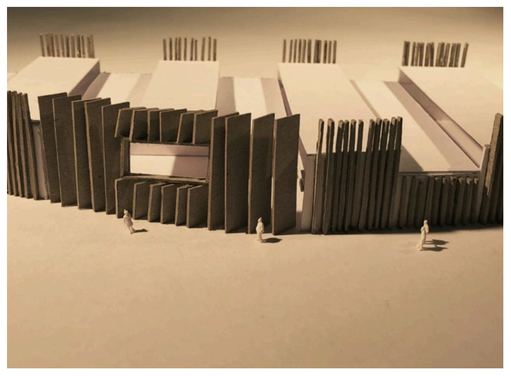
The mixing of outdoor and in encourages users to come inside

MODEL 2

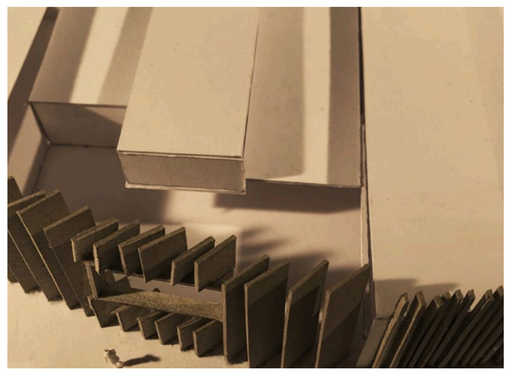


The vertical slats increase the feeling of height in the building, that wasn't evident before

Nice linear rays are created by the shadows falling through the slats

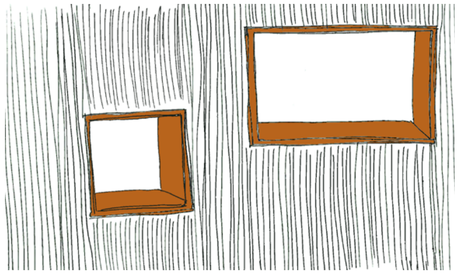


The verticality is continued throughout the facade

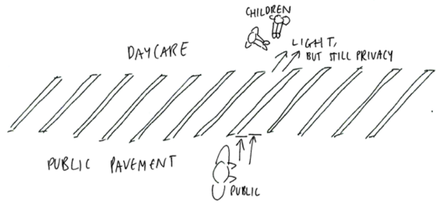


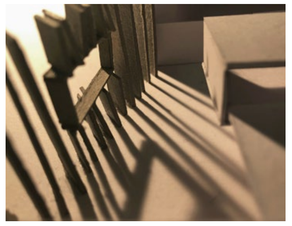
The angle of the slats allows light to filter through throughout the day

ON SITE PLACEMENT OF DEVELOPED FEATURES

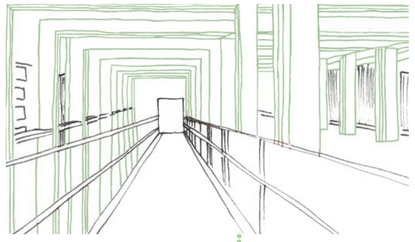


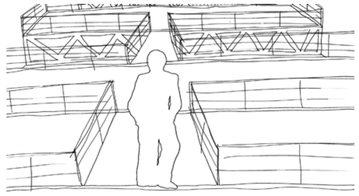
Deep set Core 10 windows are outlined to stand out through the vertical wooden beams which clad the building the whole way round. They allow light to penetrate the facade, whilst still allowing privacy for users of the interior due to the depth.



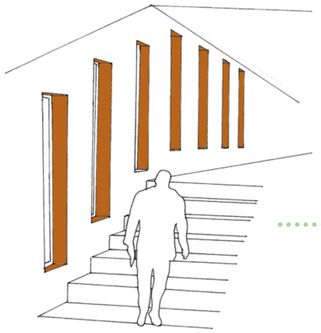


The huge vertical slats That cover the daycare centre creates a safe privacy for the kids inside, whilst still letting light filter through. A large horizontal window upstairs has been added so the kids can see out over the river.

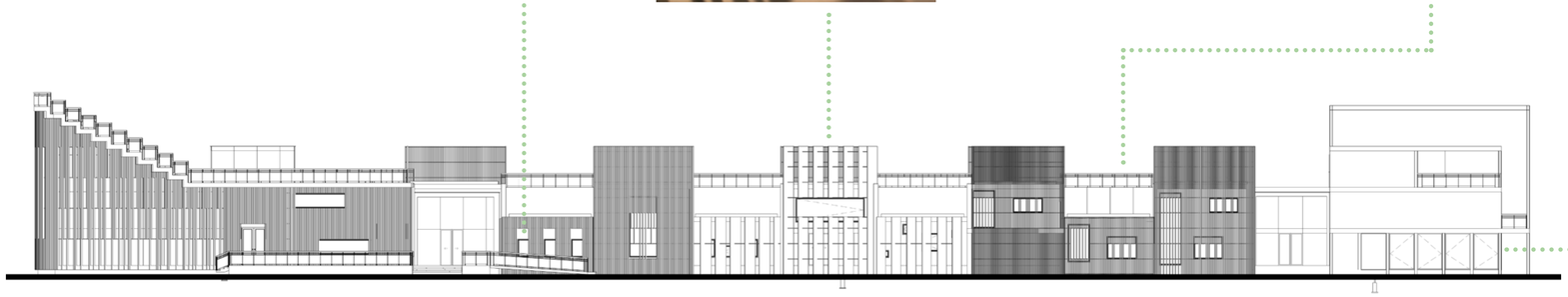




The alternating roofline on the top of the building means it is necessary to have walkways between the top levels, to allow visitors to travel between grreen grass roof sections. This means less ground surface area is used up by the building, and keeping the alternating line means light can still fill the rooms below through the glass covered truss windows.

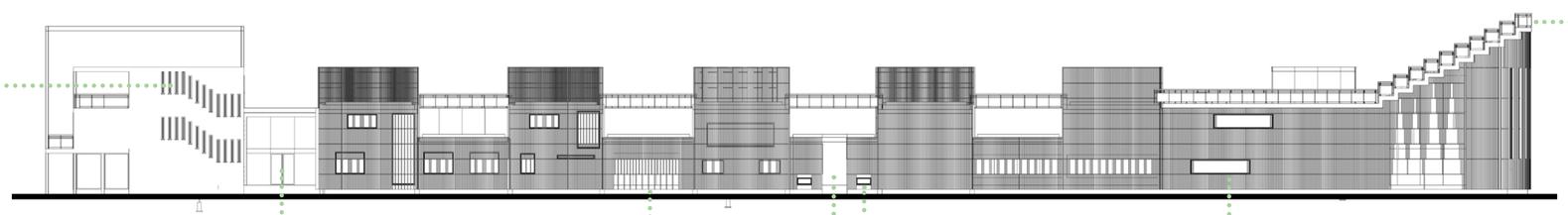


The stairs are followed upwards by veritcal thin slit windows, which allow chinks of light throughout the day according to the position of the sun. It also makes it obvious from the outside that there is a double staircase inside, making activity inside clear.



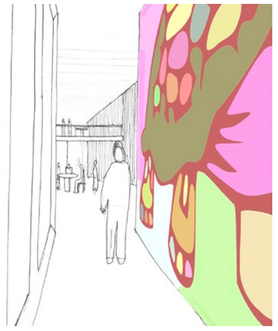
South side elevation

The offices in the cube built for collaborative group work are surrounded by large repetitive windows the whole way round, allowing lots of daylight for people to work in. New steel Core 10 columsn make the interior structurally sound.

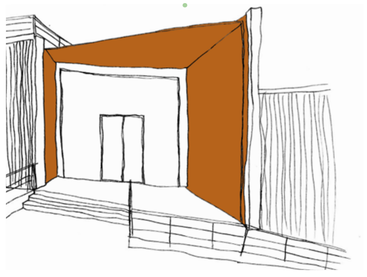


North side elevation

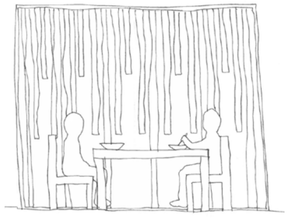
The stepped terraced roof garden provides another place for cafe visitors to sit in nice weather with views of the river, and also mkses the elevation view more interesting to the eye, whilst making the cafe end feel just as important and monumental as the tall cube at the head of the building. This means people are more likely to be directed to the cafe and visit.



A colourful mural space has been added to the entrance hall, to brighten up the interior and invite people in. It would be a potential place for the creative hub workers to showcase their work, so the areas are more connected as a whole building.

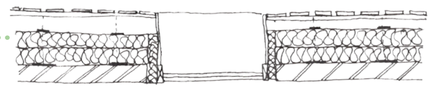


The Core 10 covered entrance shelters visitors from harsh weather or direct sunlight when entering, and outlines the large monumental doorway, so people know how to get in. Ramps have been included to allow for disabled access.



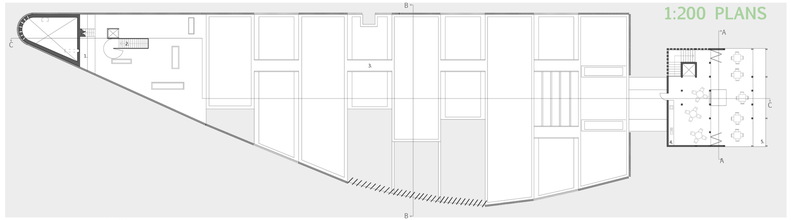
In the nursery dining room, the large window is slatted gradually down to window, to create interesting shadows insude and also shade the children as they eat, whilst still allowing them to see out.

This deep set saftey window has been added to keep the childen safe away from the public eye, whilst still letting nice views and natural light through. there is the possibility of growing plants in the windows, to try and bring nature inside the building.



Playful and non regular placement of windows was also used in this Dnish nursery precedent. In the design windows were placed not because of geometry, but instead placed according to which areas needed light for the function inside. Therefore this practice follows Le Corbusier's quote; 'form follows function'. The building is already irregular in shape, especially in the facade, so the windows don't look out of place to not follow a scheme.

1:200 PLANS

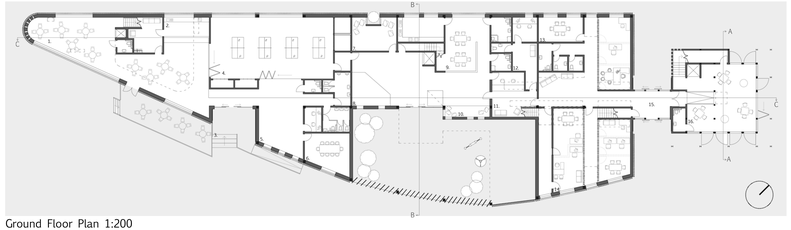


Second Floor Plan 1:200

1. Rooftop Public Seating
2. Stair access from café
3. Maintenence walkway for green roof
4. Creative Workshop Kitchen and Break Room
5. Creative Workshop Outdoor Balcony

First Floor Plan 1:200

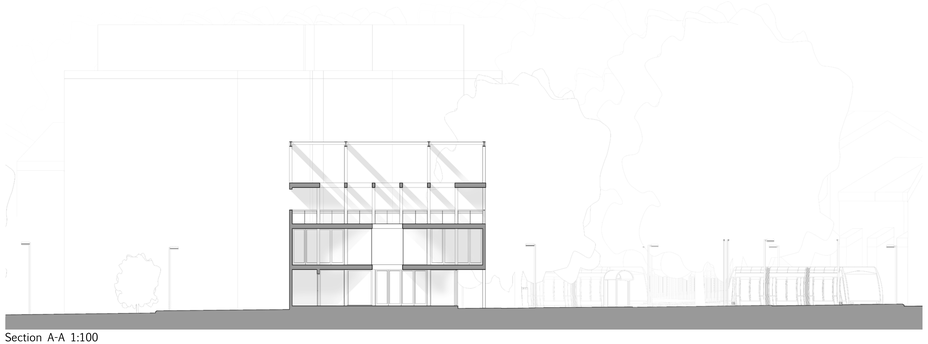
1. Cafe Mezzanine Seating
2. Creative Workshop Void Zone
3. Nursery Play Space
4. Creative Workshop Rentable Spaces
5. Creative Workshop Quiet Meeting Zone
6. Creative workshop Rentable/Hot Desks



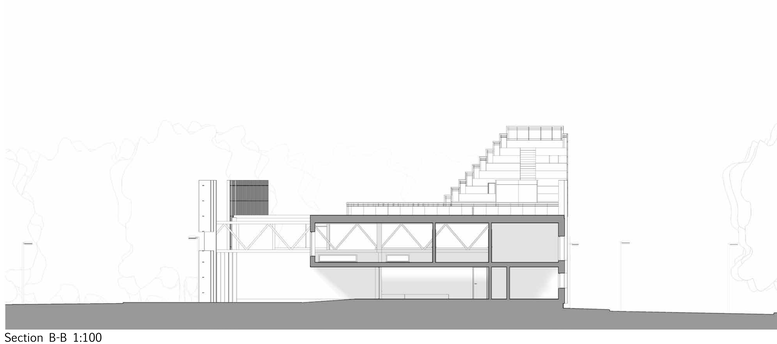
Ground Floor Plan 1:200

1. Cafe Seating Area
2. Cafe
3. Cafe & Community Hall Entance
4. Community Hall
5. Creative Workshop Store
6. Creative Workshop Meeting Room
7. Toddler Crèche
8. Nursery
9. Nursery Dinning Area
10. Nursery Quiet Play
11. Nursery Outdoor Play
12. Nursery Office and Staff Room
13. Creative Workshop Meeting Room
14. Creative Workshop Main Workspace
15. Creative Workshop Main Entrance
16. Creative workshop Rentable/Hot Desks

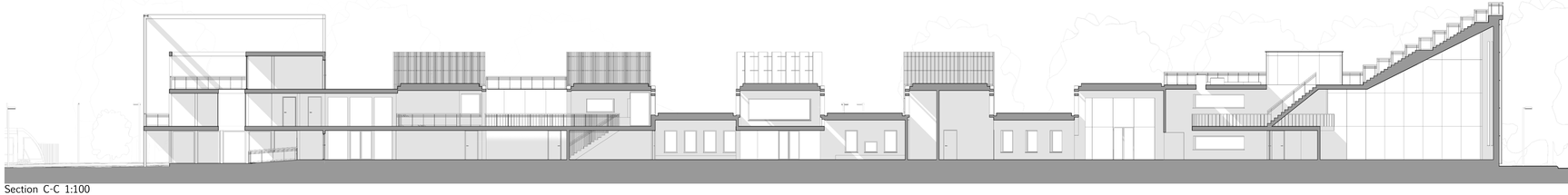
1:100 SECTIONS



Section A-A 1:100

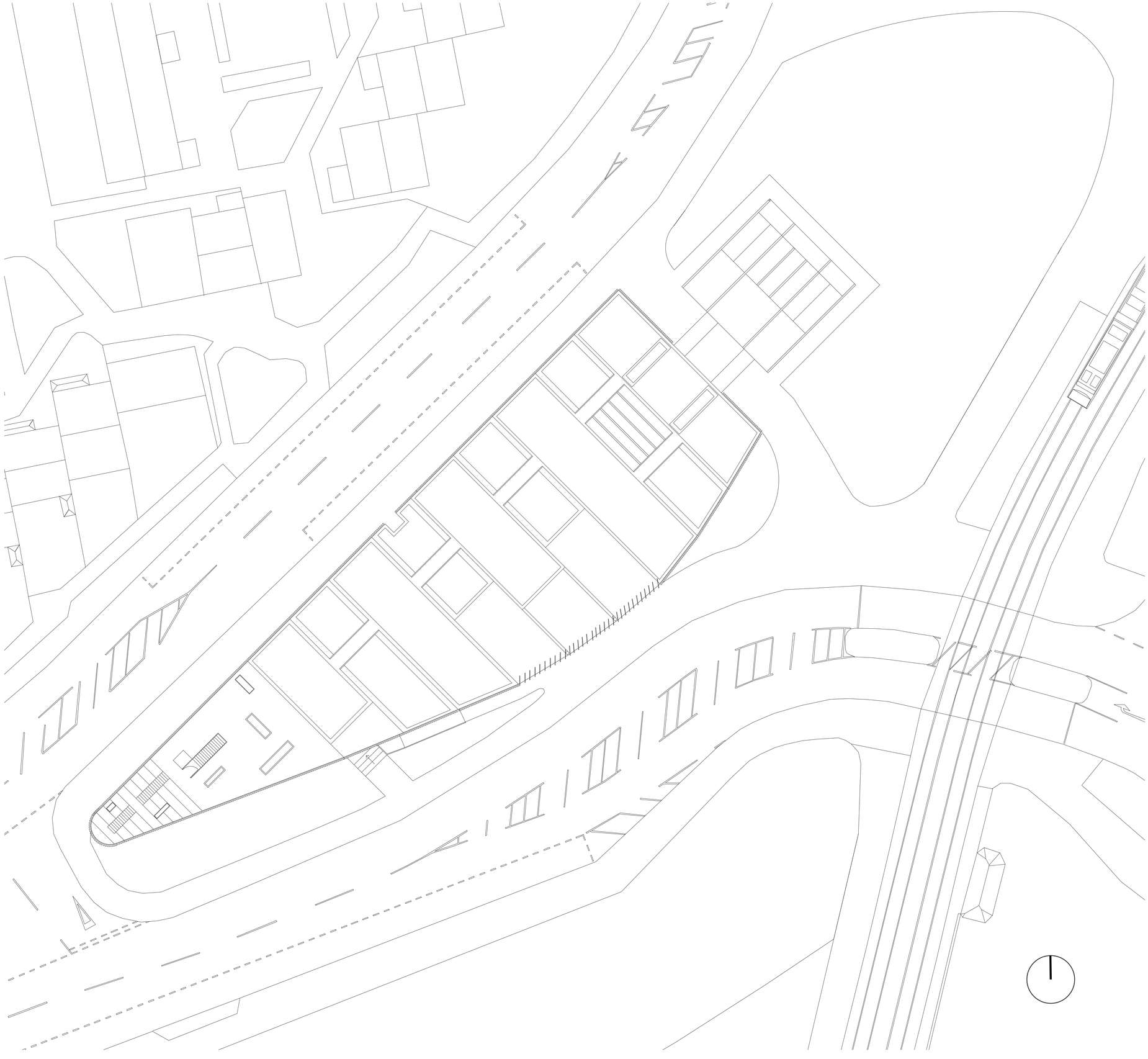


Section B-B 1:100

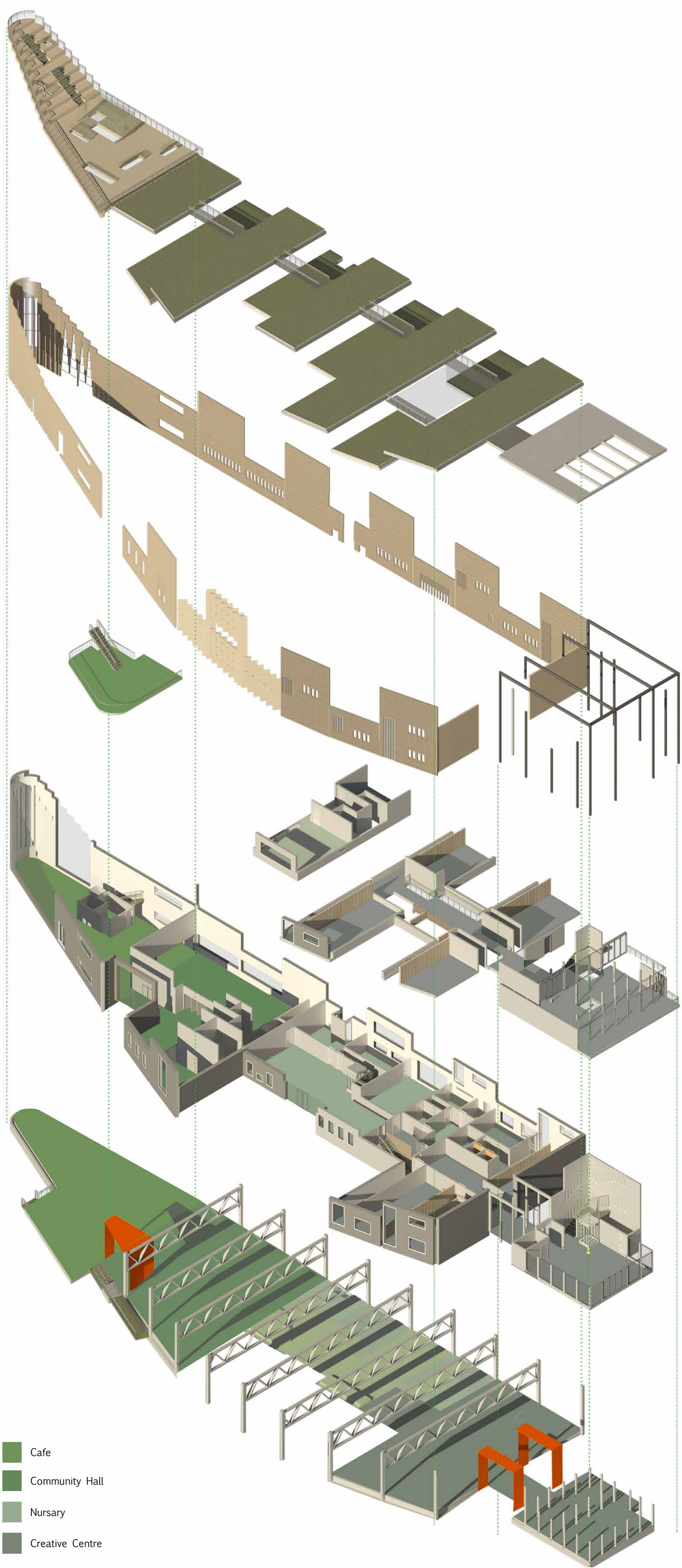


Section C-C 1:100

1:200 ROOF PLAN



Site Plan 1:200


Cafe
Community Hall
Nursary
Creative Centre

FINAL MODEL

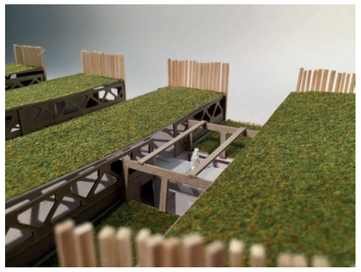
Final Building Represented at 1:100 Scale

The roof of the cafe gradually steps upwards at the tail end of the building to create a monumental destination that mirrors the height sense of grandeur seen at the other end of the building.

A roof garden sits on the roof of the cafe and can be access by the main cafe staircase. This space will be populated by tables and provides views over the river and the meadow of green roofs across the rest of the building.

The community hall and cafe share a main entrance which can be seen above surrounded by corten steel cladding. As visitors approach the entrance the mural on the interior wall can be seen through the large glass entrance.

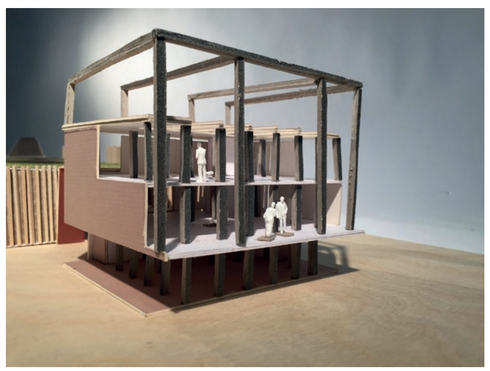
The wood cladding, that runs across the whole main section of the building is manipulated to create openings for windows and views into and out of the large void which is used as an exterior extension of the daycare.



The new building relies largely on the columns and trusses from the original structure for its support. The only place where the trusses have been altered is shown above. To for 1st floor creative spaces the trusses here have been cut through creative a raised walkway.

A similar corten clad entrance is created to access the creative hub and daycare. Also seen here is how the extension of what was the administrative building has created an overhang, under which pedestrians can walk.

The series of balconies, terraces and large windows on each floor of the creative hub allow artists to look out and engage with the surrounding area.



The ground floor showing the access into part of the creative hub and through to the daycare.

The first floor of the creative hub spanning across the two part of the building and the walkway that cuts through two structural trusses supported by extra columns below.

1st/Ground floor layout of the main day care including the exterior void, play room and eating area.

Interior layout of the community hall. Entrance, shop and meeting room on near side and main hall on the far side of the building.

Interior image showing how the cafe space can be connected to the main hall when the bi-folding doors are open creating a space for larger functions.

South Elevation 1:100

East Elevation 1:100

North Elevation 1:100

West Elevation 1:100

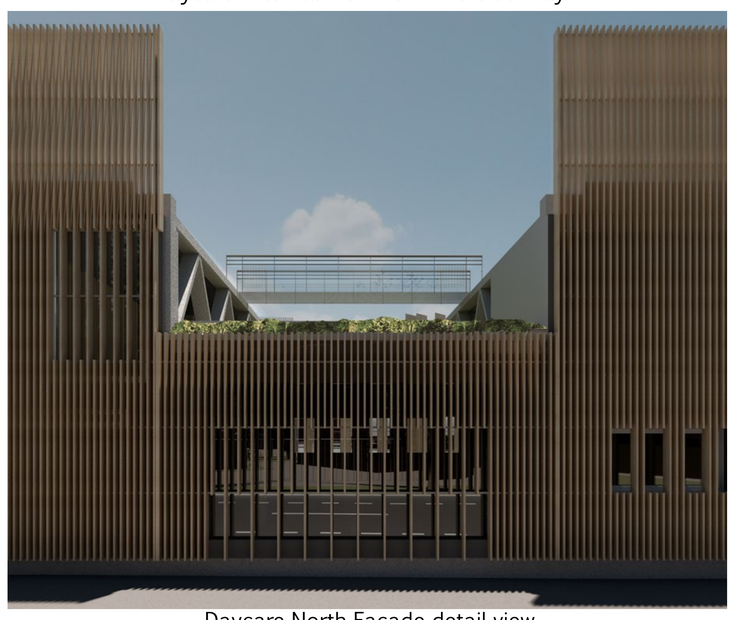
External view from Riverside Way

External view from Robin Hood Way

Cafe external view from Riverside Way

Cafe and Community Hall Entrance

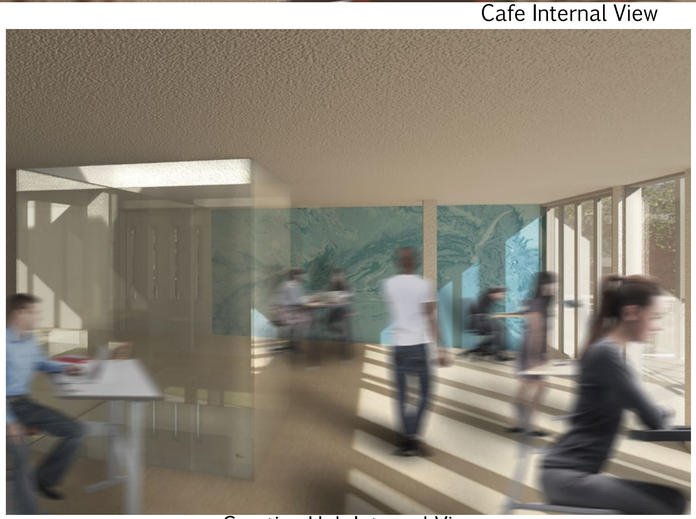
Daycare External View from Riverside Way



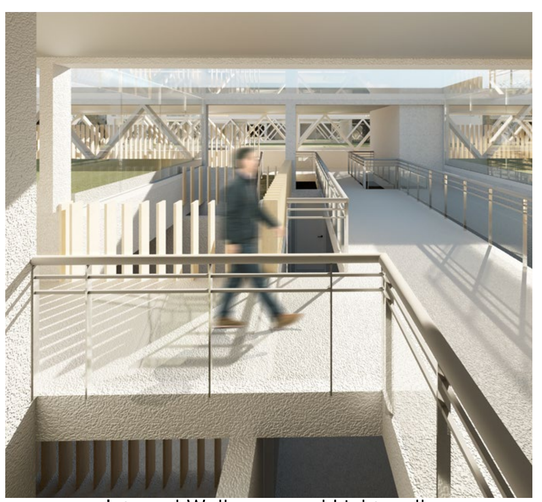
Daycare North Facade detail view

Cafe Internal View

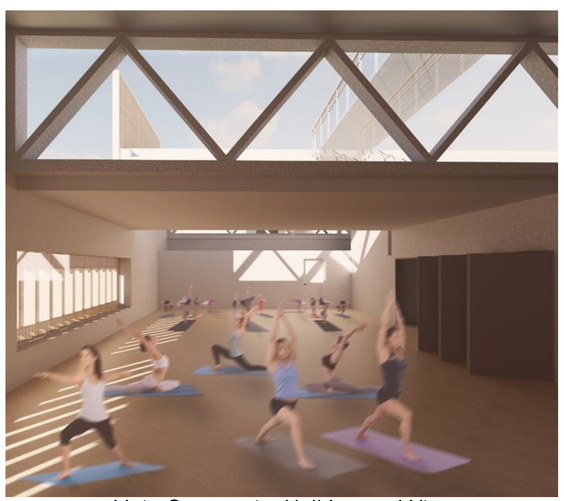
Daycare Internal View



Creative Hub Internal View



Internal Walkways and Light-wells



Main Community Hall Internal View