

Design Journal

Haven Terrace

Adam Cameron Rush

20032857

Studio A4: Residential

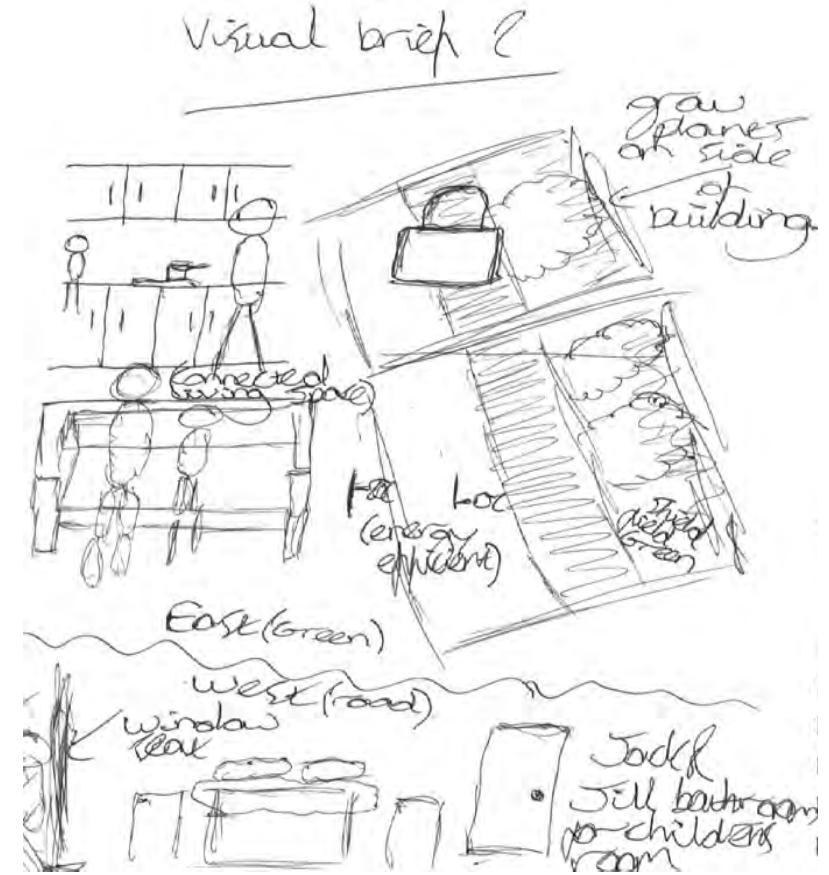
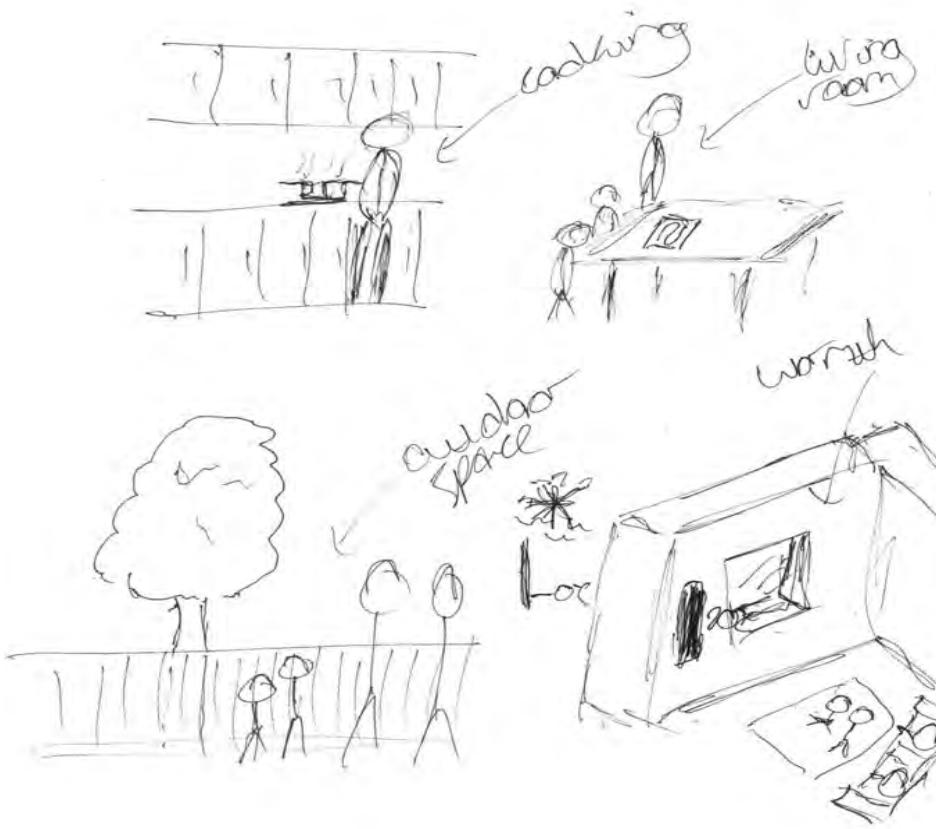
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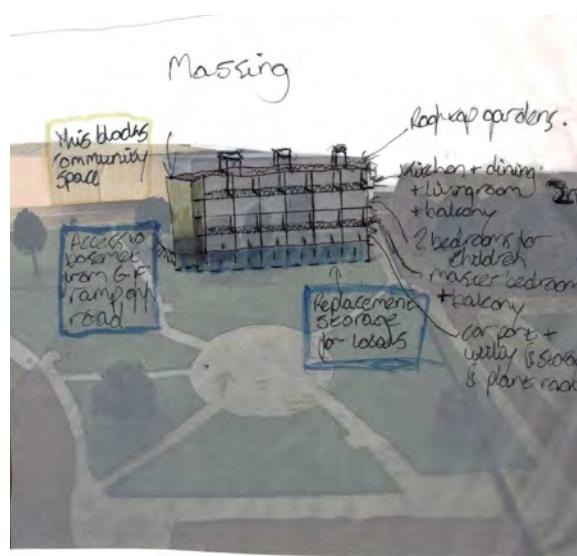
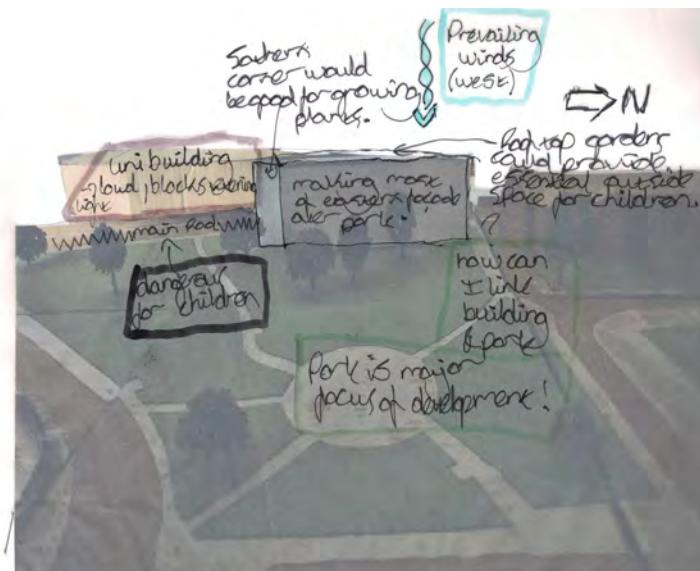
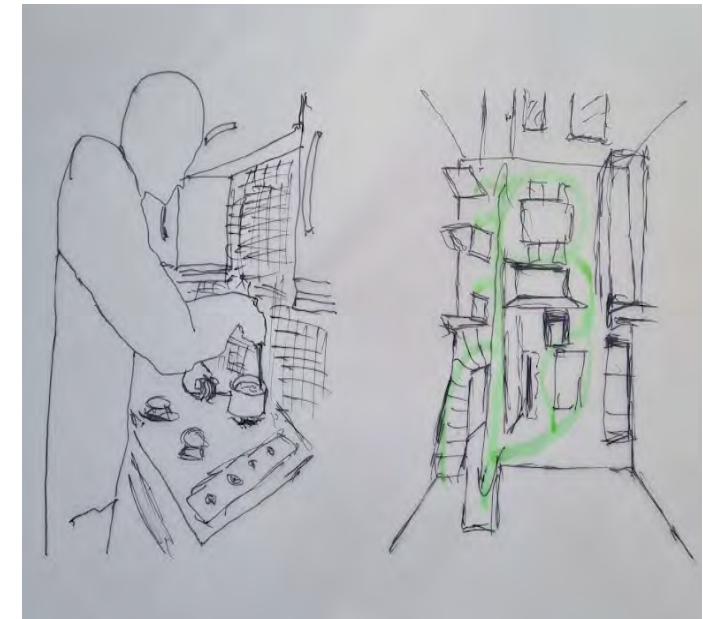
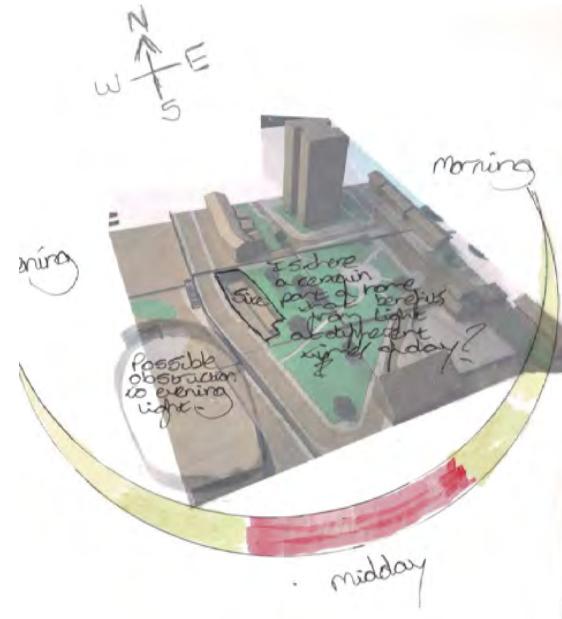
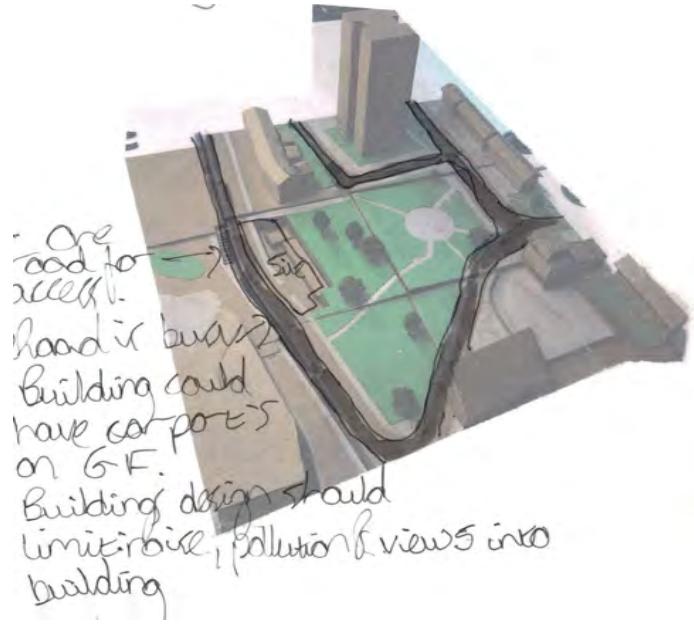
SECTION A: TOOLS FOR DESIGNING

SECTION B: DESIGN PROCESS

SECTION C: CONSTRUCTION & MATERIAL STRATEGIES

TOOLS FOR DESIGNING





Site Testing & Diagramming

Ideation \rightarrow sketch of idea of design annotated

Abstraction \rightarrow how to represent design

Symbolism \rightarrow Daniel Libeskind, Jewish Museum Berlin, Berlin
make a symbol of something in a building

Simplification \rightarrow pictogram & ideogram
(represent ideas)

Evacuation \rightarrow Peter Zumthor
trying to show experiential qualities
(light & shadow) connections can

Communication \rightarrow Bill Lavers: BirdZED
communicated; sustainable, livable city
clear full diagrams.

Motability & testing (sun path)
possibly shape building according

to sun light

Dark Minimalism \rightarrow Daniel Libeskind

- Visual brief
- * Site & brief linked
 - strategy of building
 - look at narrative & manifesto
 - spatial considerations
 - placing building \rightarrow quick model/drawing of site
 - making can be iterative \rightarrow appropriate materials, possibly & some iteration from responding from site
 - what spaces need to be next to each other (bubble diagram)
 - sit resp.
 - what focus area of surrounding is (port)
 - So % of work is important \rightarrow leave lots to decide.
 - Important! freedom! plans of other buildings of similar size
 - visual brief picked + annotation
 - Important to link back to site analysis
 - grid lines might help
 - layering of site \rightarrow different function requirements
 - maximize sun building important
 - keep drawing over site or site plan

Creative Process

Gardening

Preparing ground



Digging hole



Positioning plant(s)/
seeds/buds



Filling bed/soil
keep remembering position

Feel satisfied & wonder what will happen over its lifetime.

People own accounts of
creative processes

What have I been

Preparation → consciousness

Incubation → mostly subconscious

Illumination → conscious recognition of
solution (sudden or gradual)

Verification → critical / logical thinking
→ focus on what is happening on
own mind

- Building theory of research
- Being productive
- lots of developing work.

- If you grasp something too tightly
you might not make it work
properly

Design Process Map

Previous fragmented
what is needed: what is?

mapping axonometric views

Bubble diagram of connected spaces

Working floor plan etc

I NEED TO HAVE MORE FOCUS
ON ELEVATION & PRECEDENTS!

Building model with blocks

NEED TO WORK ON NEATNESS
(computer)

using context of site

Remembering brief

Design Workshop Summary

During the design workshops I have been able to reflect on my previous projects to build upon my experience and strengthen my work.

The different types of site diagramming and testing can be useful in presenting my work, I think this is a good lesson to revisit when developing and presenting sites giving me more options than I had previously.

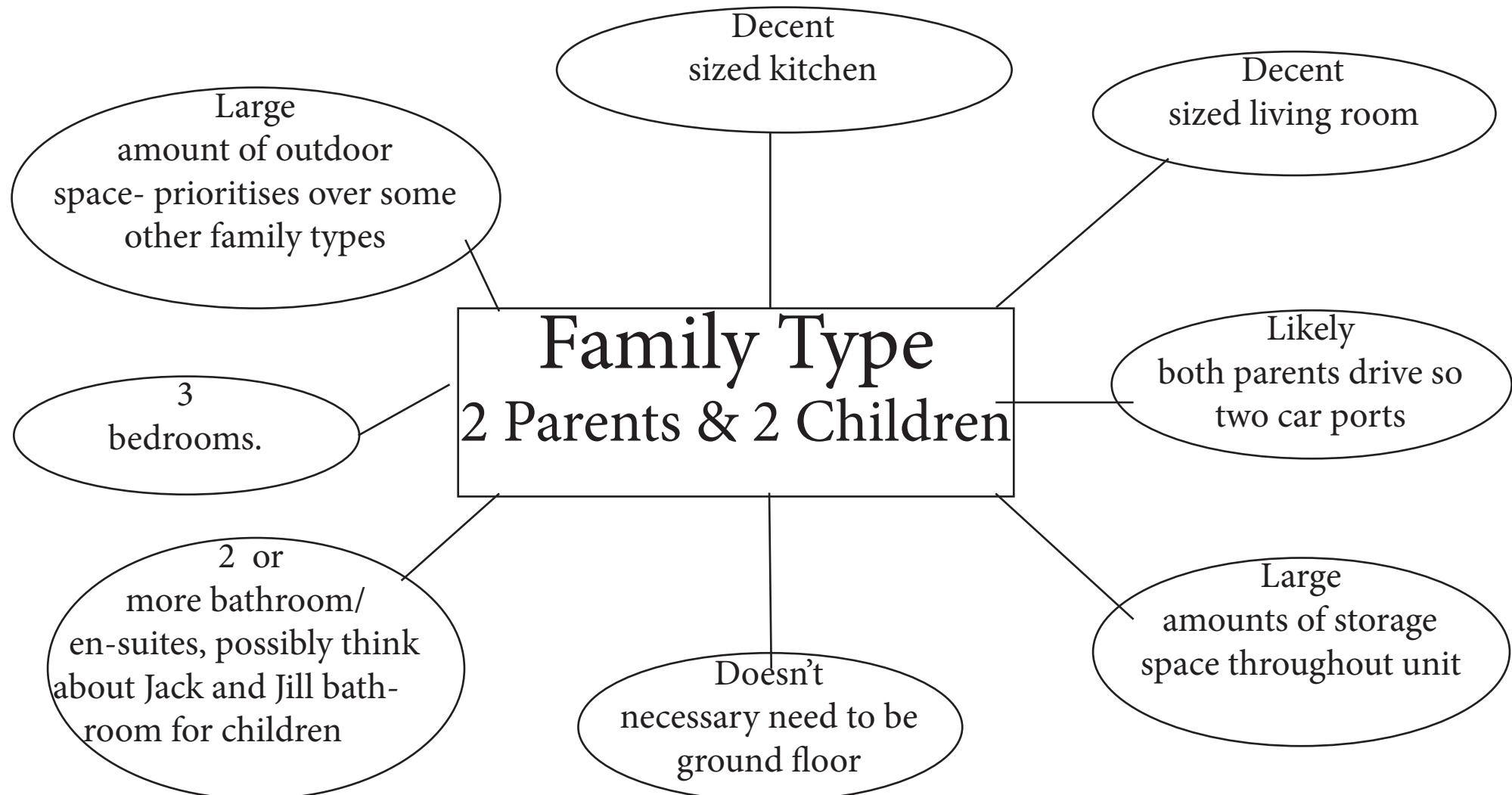
I have also found new ways of expressing my point such as the visual brief that has helped expand my presentation style going forward.

Personally I have come to the realisation that digital work is going to play a bigger part in my work, but still working alongside initial analogy sketches.

I personally prefer this method because it is more accurate and neat than using traditional techniques. I can also use a larger pallet of colours, easily edit there is less equipment to remember and there is no need to scan the work meaning it is easier to account for pieces of work.

DESIGN PROCESS

Family Type



Visual Brief



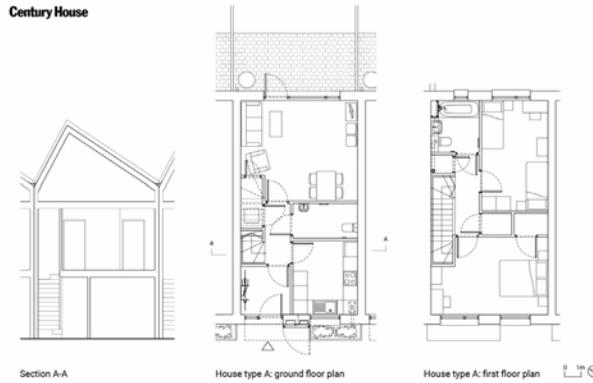
My own picture and bing search results for each picture

Community study

- Shieldfield was originally a farming community made of land free for farmers to use
- Over time the area became more densely populated and became part of the wider Newcastle area in the 18th century.
- In the 20th century Victorian housing were cleared and the modernist design we see today was built to house more residents.
- Recently a cooperative has been created part of this is growing crops in the area for the first time in around 100 years; as well as giving the community a voice.
- In recent years there has been a 500% increase in student accommodation in Shieldfield a contributing factor to the co-operative being set up.



Precedent studies



The stair case is in the centre of the building which I think is a intelligent use of the space since the staircase doesn't have to have light but could have a sky light.



I like the method of creating a common theme to blend different house types.

Hatert Hosuing, Netherlands



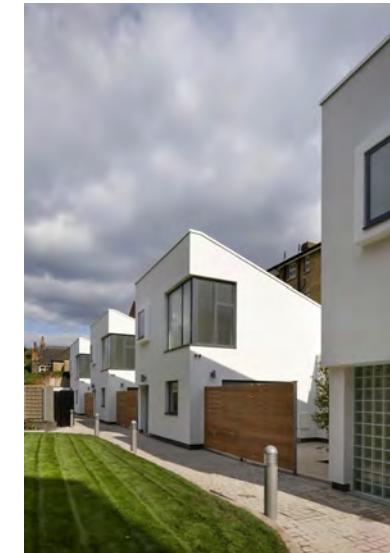
I like the horizontal design and think it can be incorporated into my design.

Vivrazz, Social Housing Spain



I like the use of timber; although the buildings don't seem to have any life the façades seem to shield the buildings and the outside is too organised.

Harvest estate in Islington



I like the corner windows.

Ludlow Lodge



I like how the footpaths are away from the road.

Social Housing Units by MVRDV Architects



steep roof
→ durable

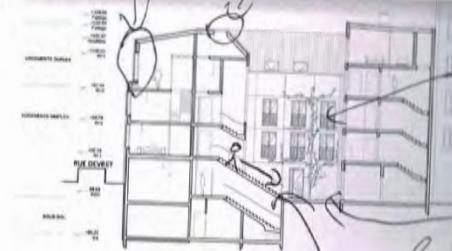
tight rooms because
of large
ceiling →
less wind

passive facade

timber
window

why is it
stepped back?

light well



narrow
light +
connect
to outside
green
in court
yard.

allowing for
private
balconies.
Inclining wall
of stairs → quick
access to courtyard

Spaces & Thresholds



Trees are like
natural
blockers → sheltering

open spaces
important
to mental health
& my family
type → children
need outdoor
space.

Adedes
Architects
Mixed
Development
in Shenzhen



High ceilings + galleries

light to
multiple
levels
warm
materials

sheltered
relaxing
space

distinctive
design.

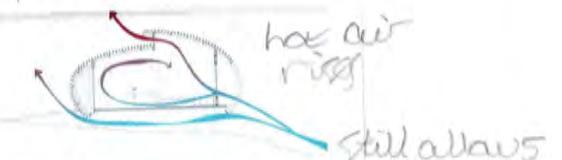
Precedent studies

Amazonian Social Housing
(from archdaily)



The architects have blended old & new architectural style to create good connection usable space.
to outside.

Balcony (threshold)



car park/storage/sooty can be placed at low areas of my design also allowing air circulation



Ribbed frame is a blend of old & new



Goldsmiths Street by the Architects Mikhail Riches

This house is also my precedent for ARC2009. I like how the parapet is also a balcony this enables the balcony to blend into the facade.

The design is also utilising the site by building upwards.



The Robie House by Frank Lloyd Wright is based on a ship and similarly to my site is bordered on multiple sides by the street. Furthermore, the building is situated on a long narrow site

- I like the bricks used in the Robie house they match the long characteristics of the site.
- The building has large horizontal planes that connect the building together
- <http://www.dees-stribling.com/2014/04/01/the-frederick-c-robie-house/>

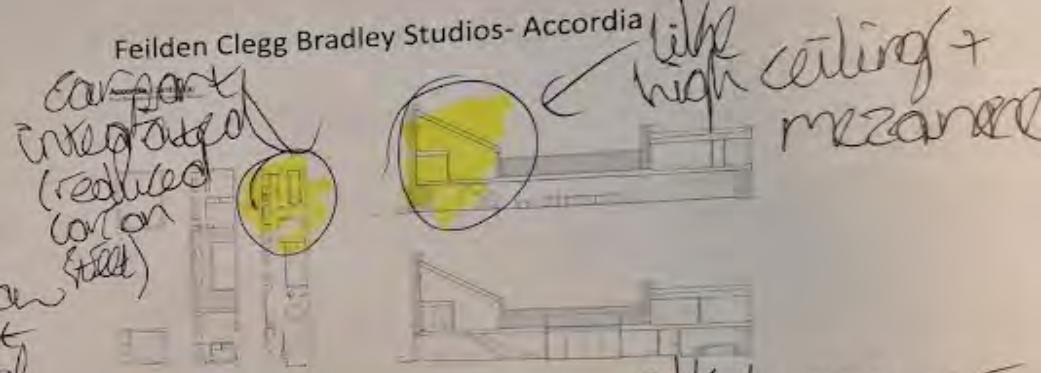
Precedent studies

By Robert Bush
Wed (24/09/2021)

Peter Barber Architects-
Sandpit Place



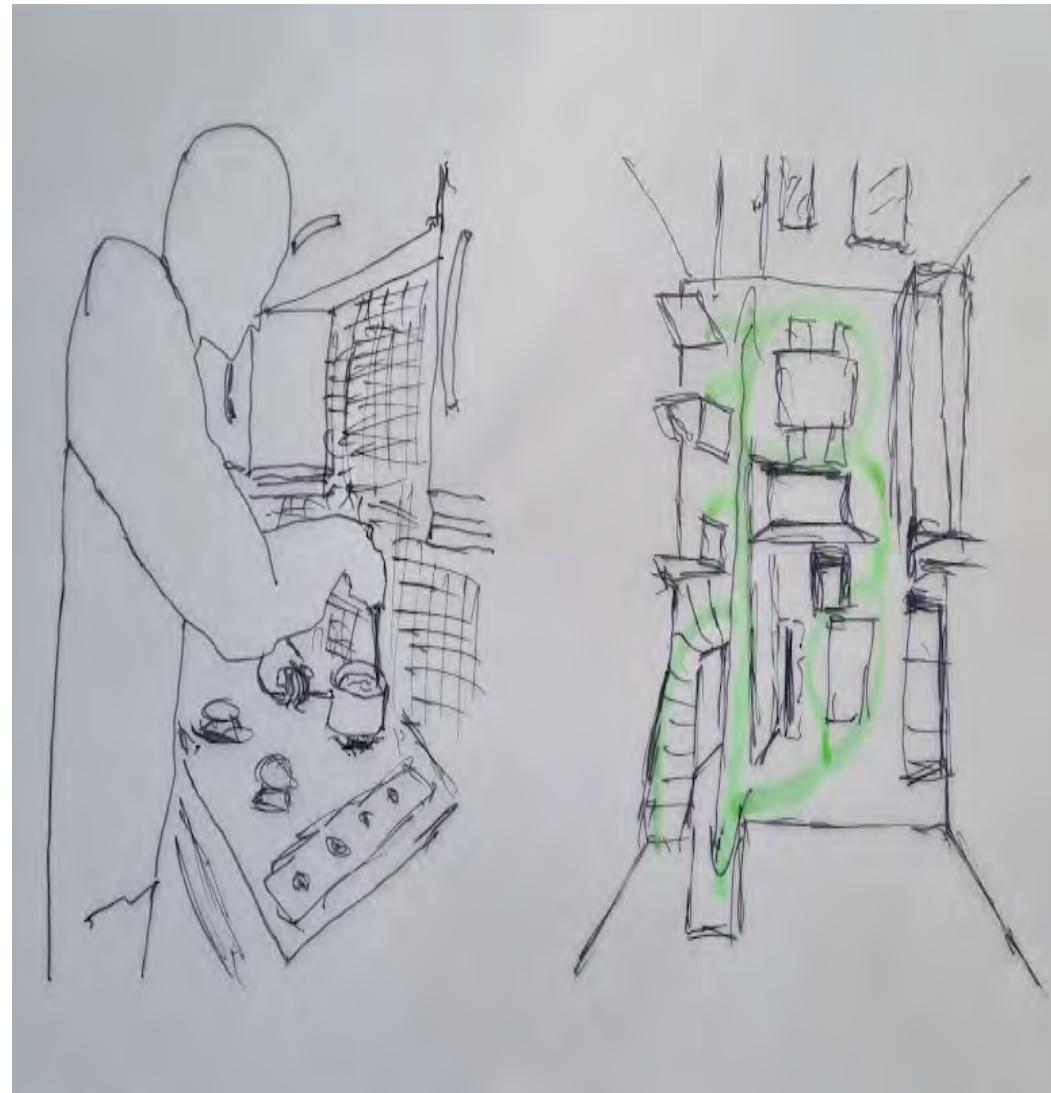
large window seat to used in previous project)



have stepped down with site (character)
could open plant up building or fence wall

add character
trees and plants help building environment
redefining outdoor space (view out)

Floor Plan Analysis



traced from picture of myself cooking taken by my sister.

During this exercise I have further developed my understanding of how to set out a buildings layout by analyzing a precedents floor plan seeing that the stairs curves around like in a previous precedent, has a passage way to avoid need to go through the living room to get to the kitchen and out to the back of the property.



Pictures from Site Visit 1



Pictures from Site Visit 2



Information Gathered from Site Visit

Objectification of buildings

Objectification is the building and then this object is placed into the surrounding master plan. This is not as much of an issue for us because of the constraints and the size of the development.

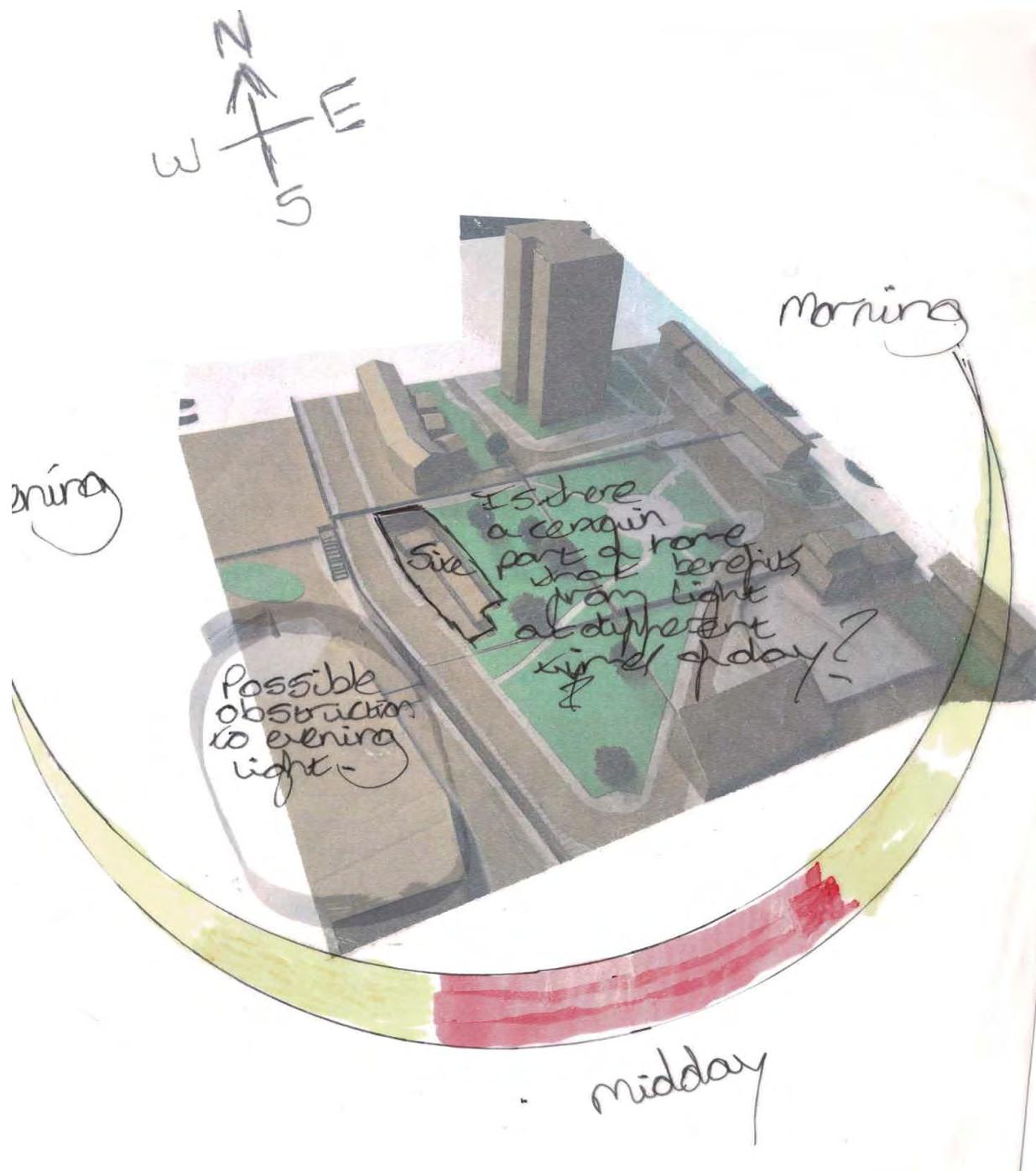
Making the most of the site

- The site has a park to the rear of the (eastern side) of the site. I think this will be the focus of the buildings area to enable a healthy lifestyle for the families of these proposed dwellings.
- The road to the west of the site can be useful to enable off street parking for residents of proposed dwellings.
- There are a variety of different styles and periods of housing to take inspiration from and means there is more freedom to design a unique development.

Other things to consider

- To the west is a University, which will be busy and loud- also indicated by a resident we spoke to.
- Temporary and replacement storage space for locals needs to be provided with the demolition of the garages on the site
- The road to the west is a main road and may be dangerous for children.
- There is the possibility of being overlooked by the University and from the park

Sun Path

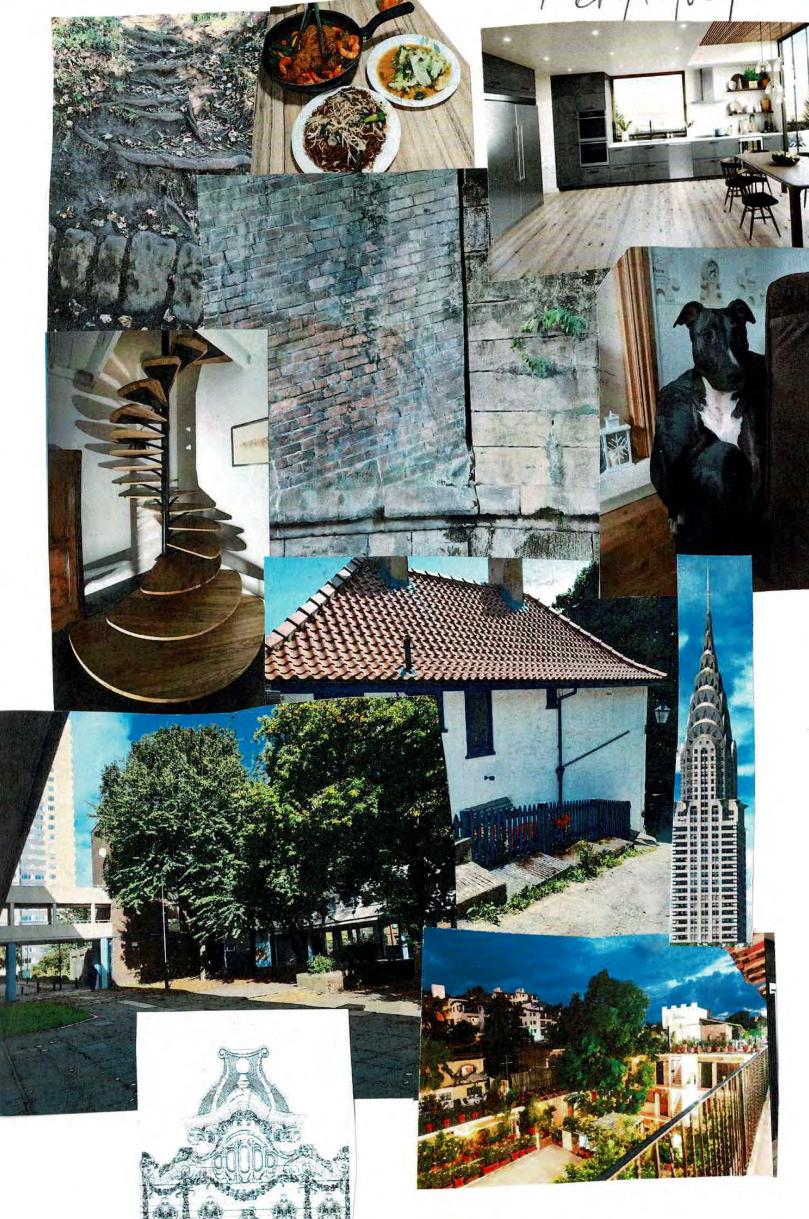


Mood Board

I am looking at different colours, materials patterns and textures that can be incorporated into the design as well as the idea of a building surrounded by greenery.

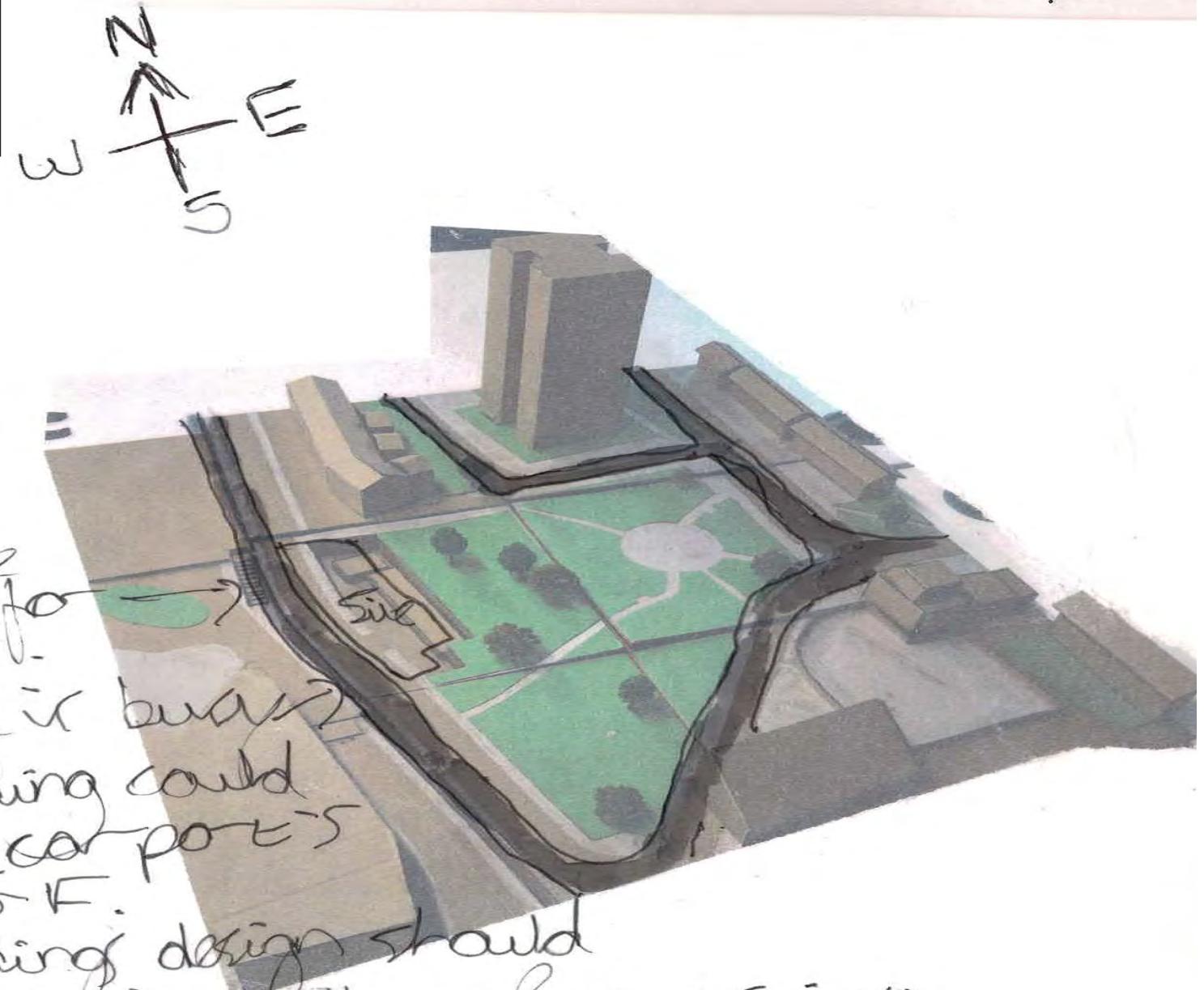
Mood board

Mon/11/10/2021



My own pictures and pictures, pintrest and bing search

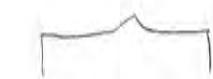
Vehicle Access Around the Site



building

Concept sketches

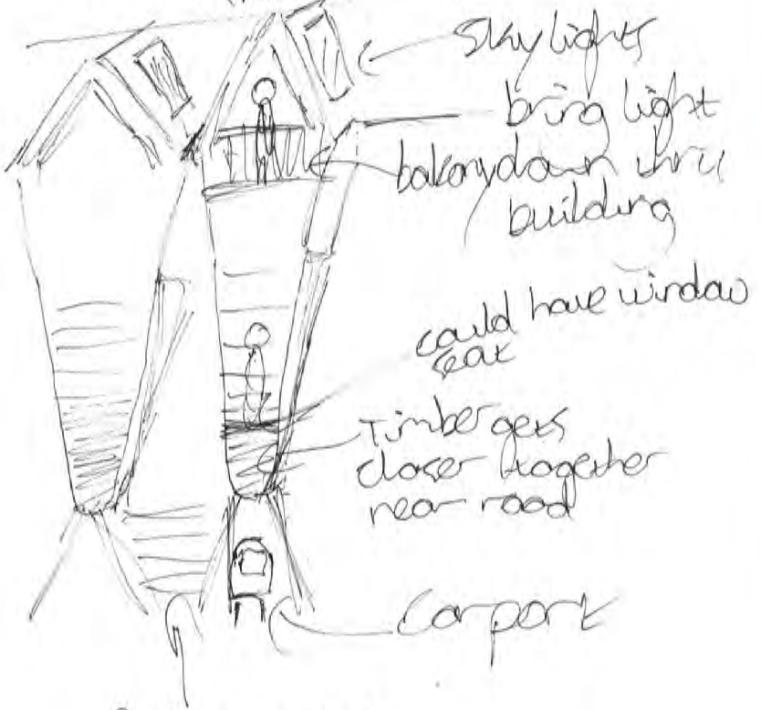
Façade Design Ideas



→ can be used as windows. However, inverted area reduces light at eye level so possibly develop.



Solutions to privacy on western side of site
(road)



Replacement
Storage for books / equipment
down to storage in basement

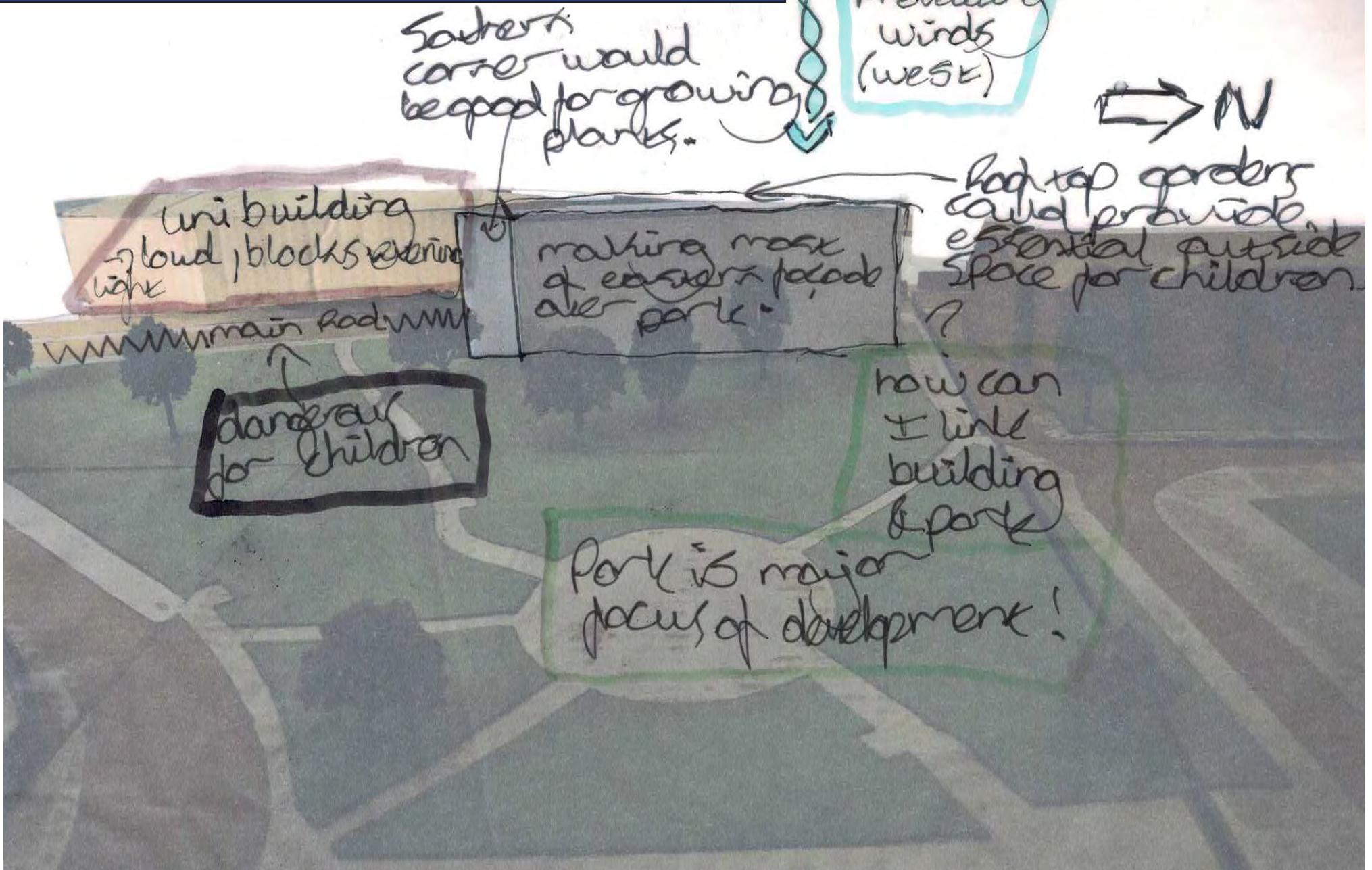
Massing



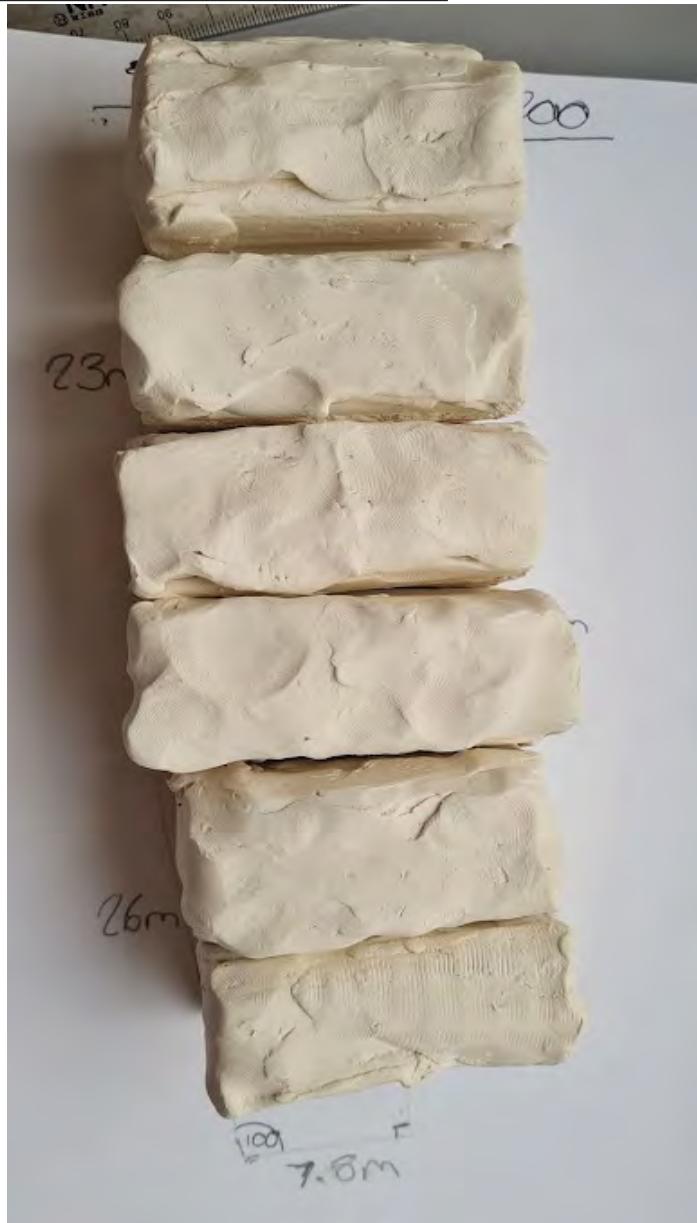
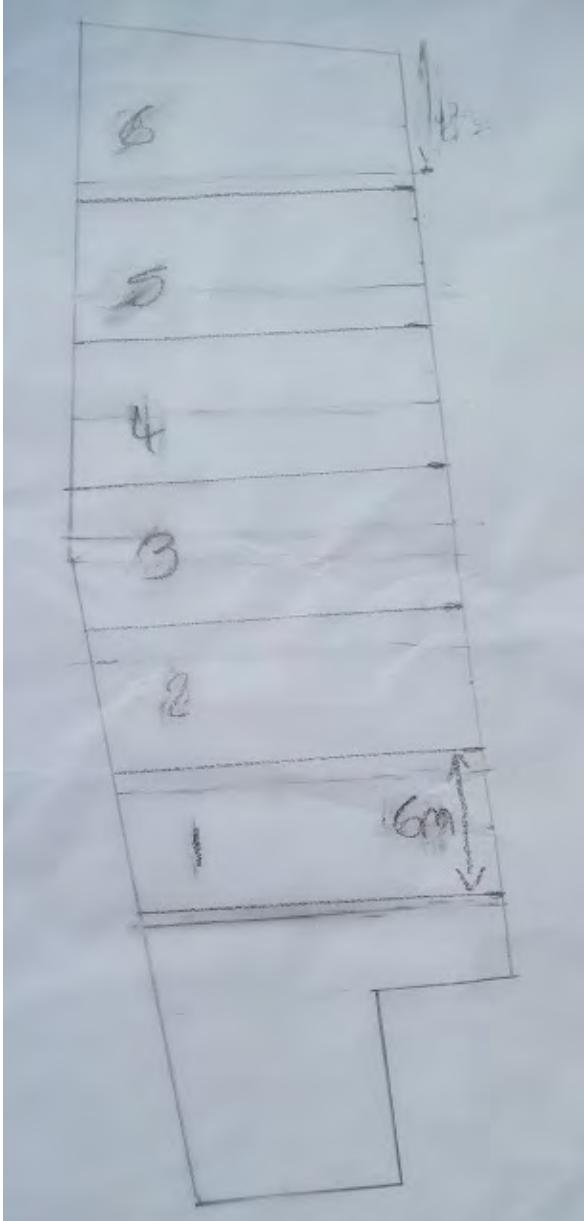
Site Model



Droddel

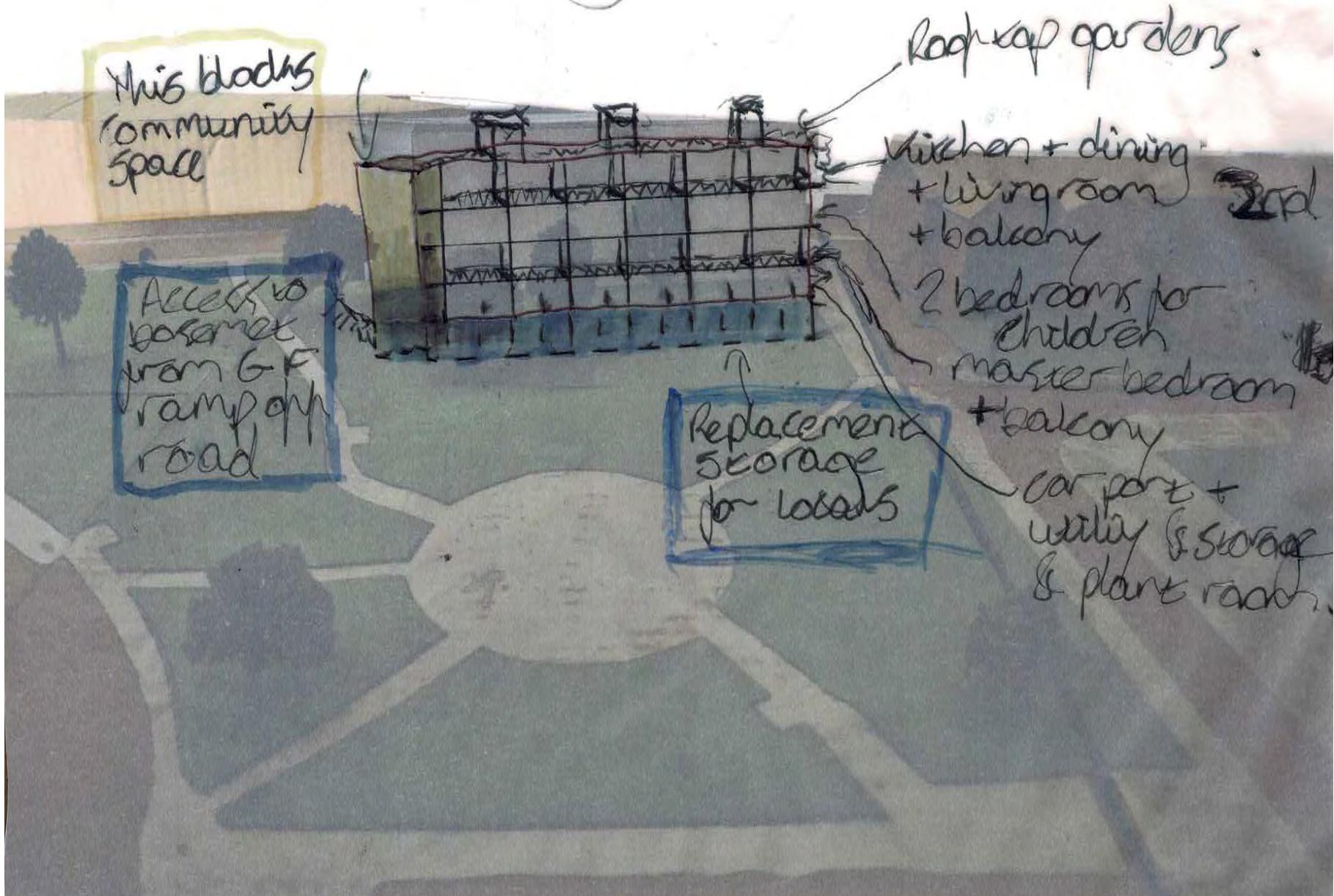


Division of Dwellings & Massing



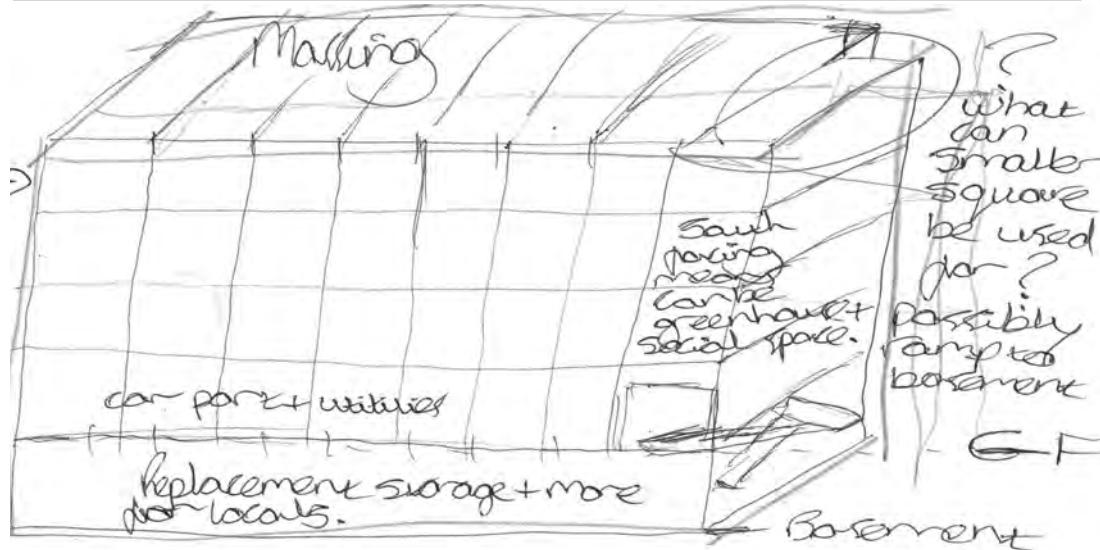
I have gone to the edge of the site to maximize the amount of space in the building. There is also an area at the bottom, which is used for access to storage and can be used for communal space, which I developed in my massing drawings.

Massing



Division of Dwellings & Massing

13 BASEMENT 1:200



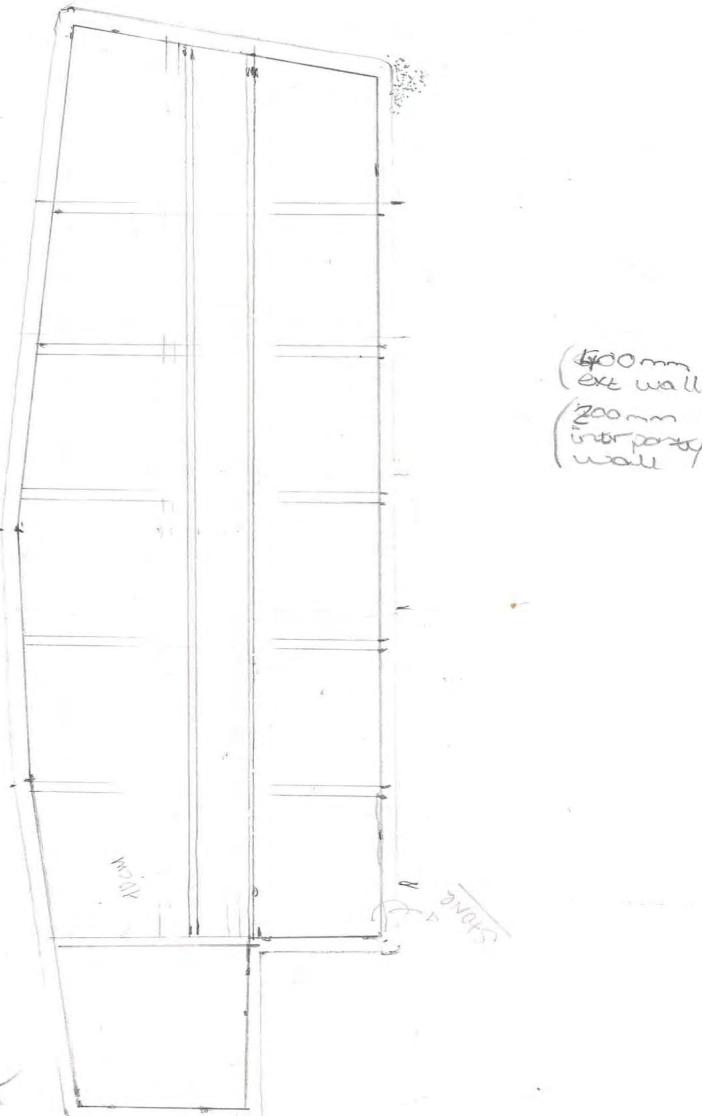
Designing multiple houses meant that there was a larger mass to develop than before and this mass could not be as different as other projects because I had to fit the same family type throughout the development.

This is initial massing, which I drew to try and break up the space.

Not long after this I bought a computer tablet, meaning I could produce neater work.

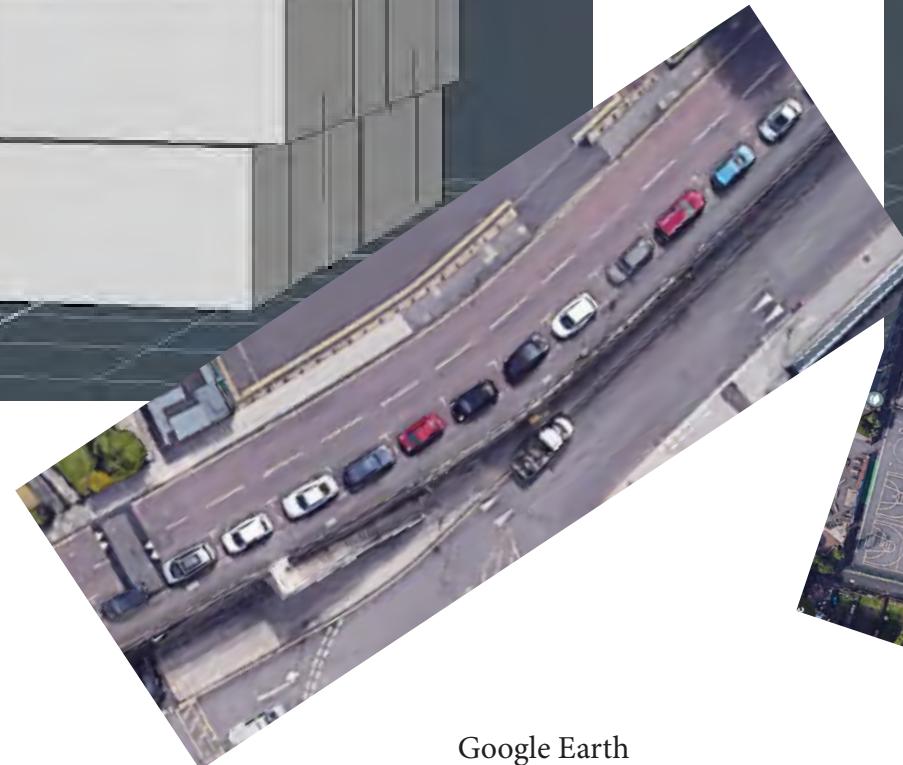
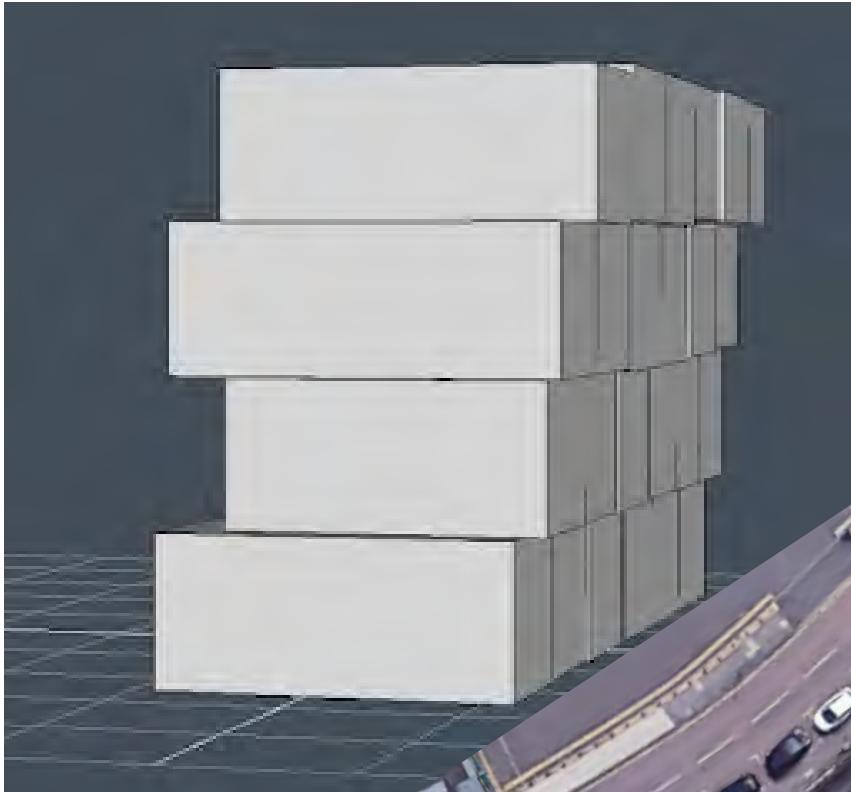
To the right I am dividing the basement into new storage units for replacement storage, with the horizontal walls acting as partition walls for the dwellings above.

Next week
A: 50
sect +
plan
* visual
break
* marking
can be
block for
each room +
also sale
separate dwelling blocks



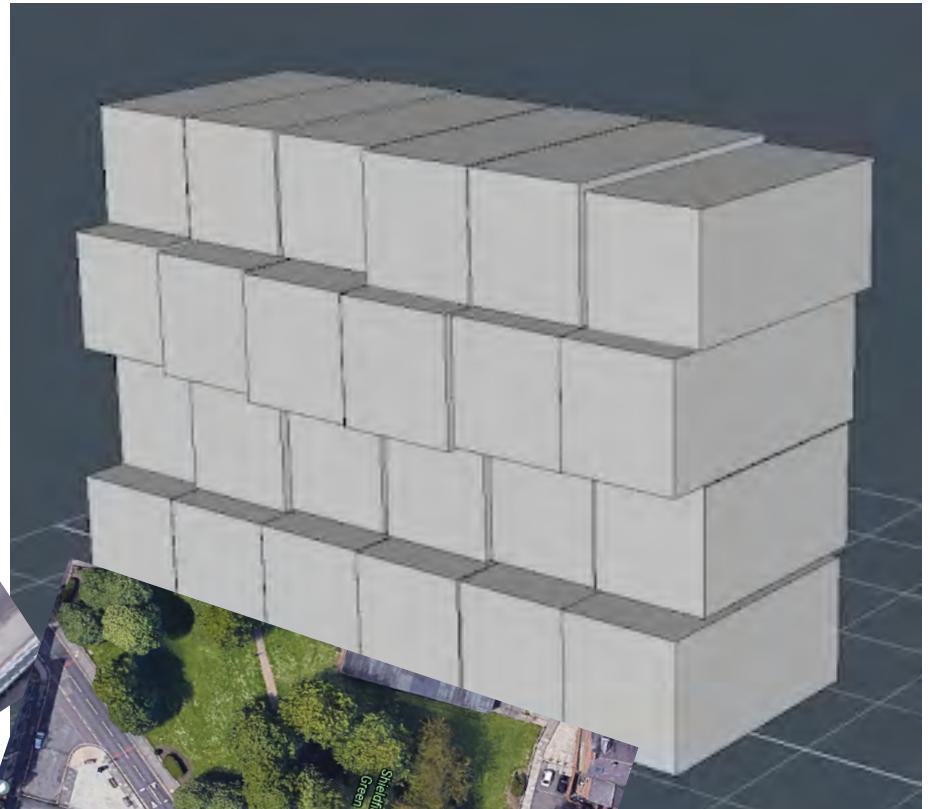
Massing

North and East Elevation

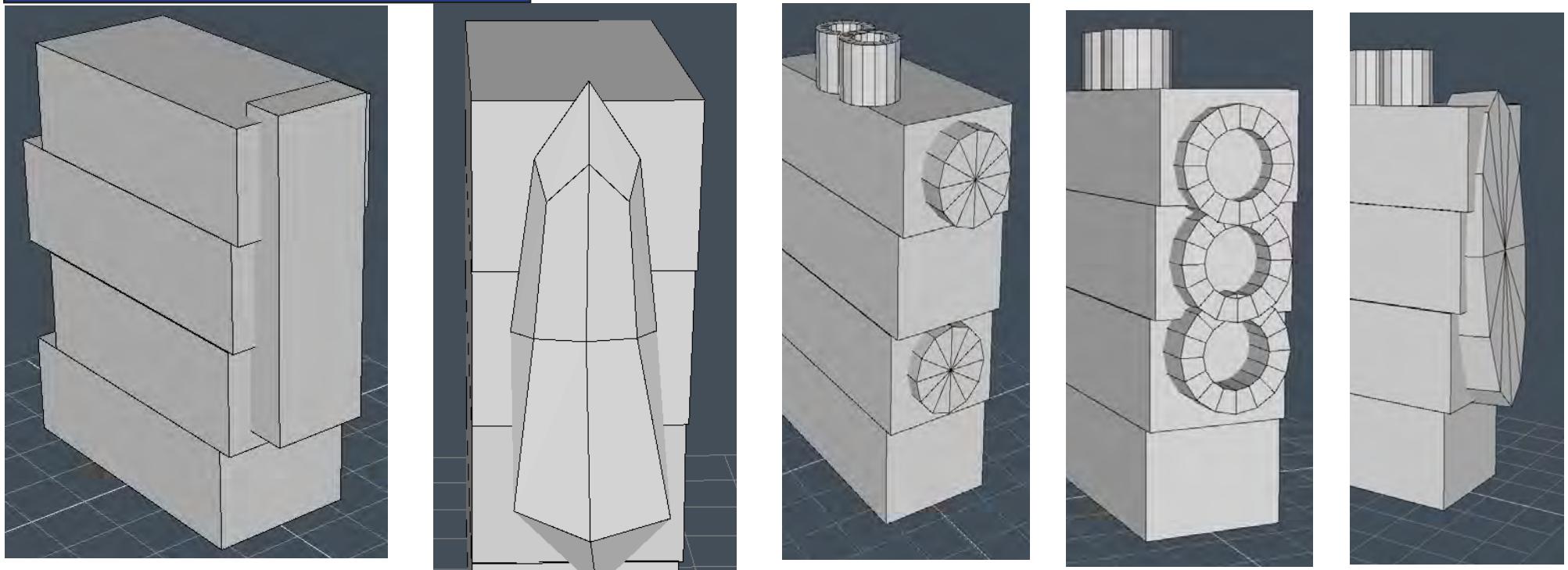


Google Earth

Western Elevation



Massing

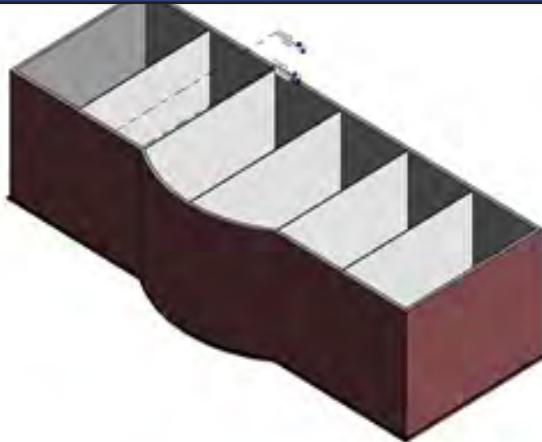


I am developing the different levels of the buildings to perhaps provide shelter for balconies with cantilevered floors in addition, to adding extra space to upper floors, because I am designating more uses to the upper floors.

I am also developing a bay window for the building with the intention of letting more light into the deep floor plan. Another possibility is that it provides a window seat so that the space is more used and gives its inhabitants more natural light whilst working which is healthy.

I do not want to take any of these iterations forward and will revisit when I start making another model. I do know that one singular and basic shape suits the facade better such as the block although, I want to make the design more interesting.

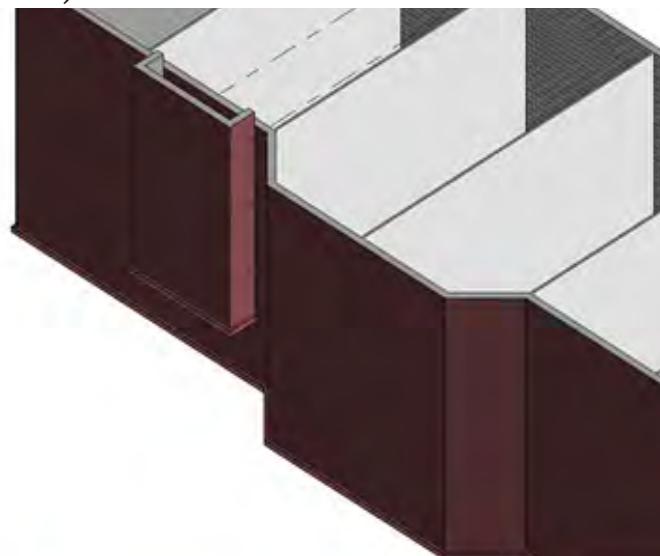
Iteration of Developing Design



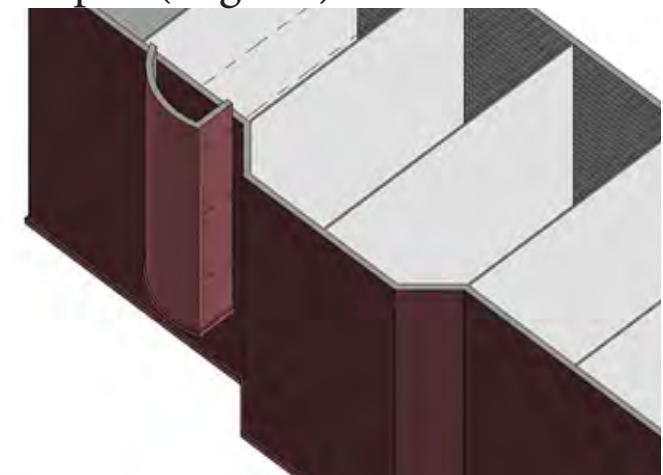
Centre two dwelling developing frontage
(curve)



Centre two dwelling frontage de-
veloped (angular)

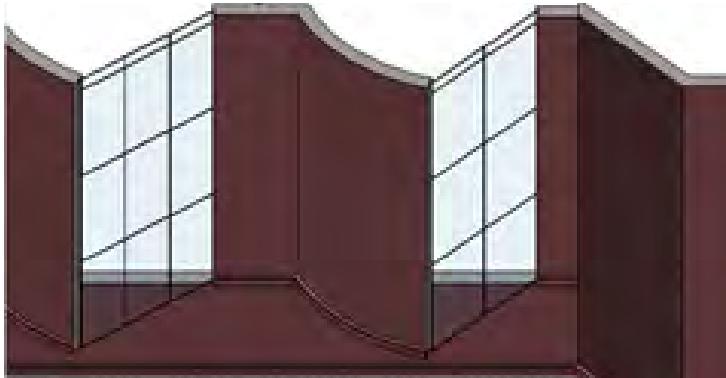


Developing bay window (rectangu-
lar)



Final shape for bay window, I intend to
make most of southern light(to the
right hand side of the screen) and shield
from the north.

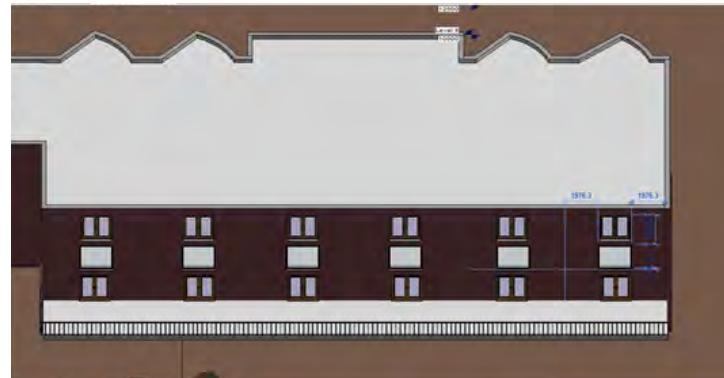
Iteration of Developing Design



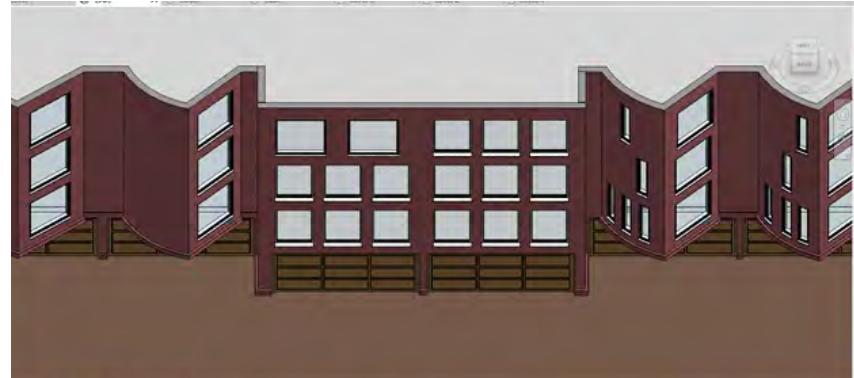
Using curtain walling for winnows though I decided to achieve maximum sola gain.



Developed version of elevation set back the top floor because I had previously switched around living room and master bedroom meaning less internal space required.



Basic translation of concept to model though I think this elevation can be developed further.

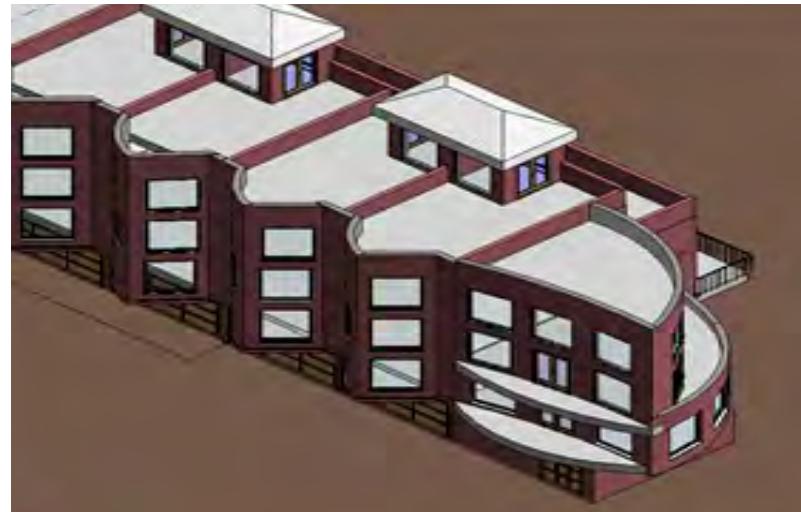


Refinement of window design. Bay windows are now split to cover floors and development of central dwelling windows also adding the garage doors for car port.

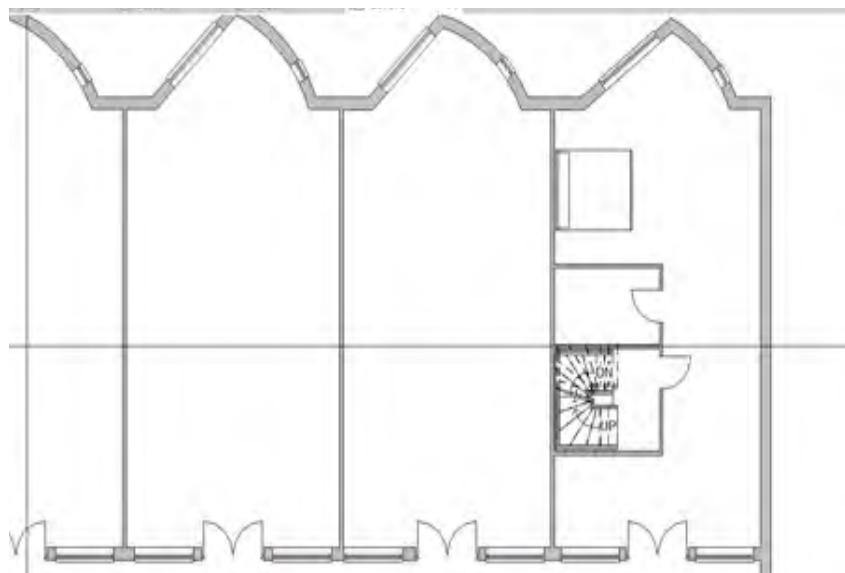
Further Model Development



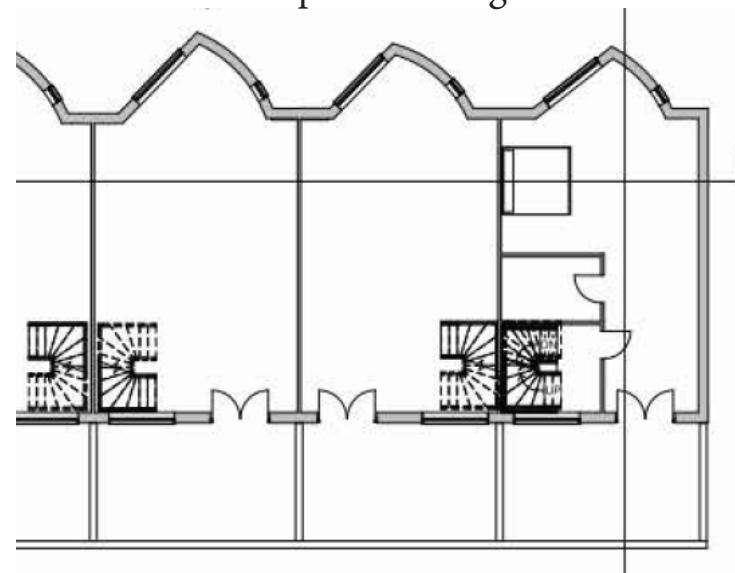
Development of Community centre on right hand corner



Development of community centre although, did not fit with rest of developments design.

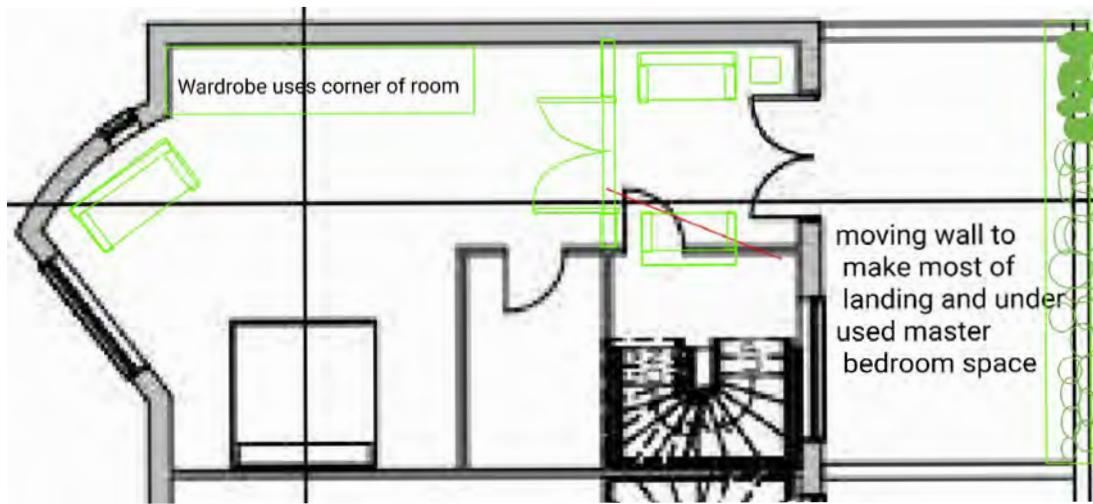


Master bedroom iteration 2 I have moved staircase back and the space is not as efficient as could be.

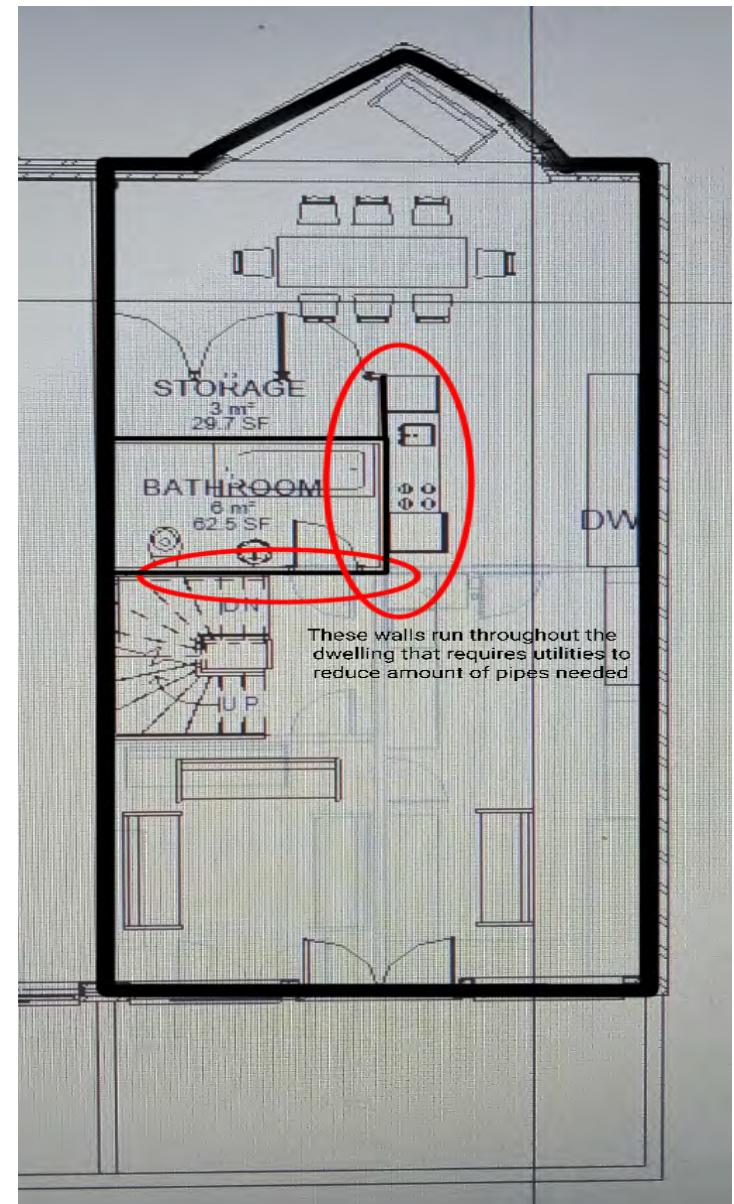


I have moved the wall back to gain more outdoor space-linking back to brief to gain more private outdoor space.

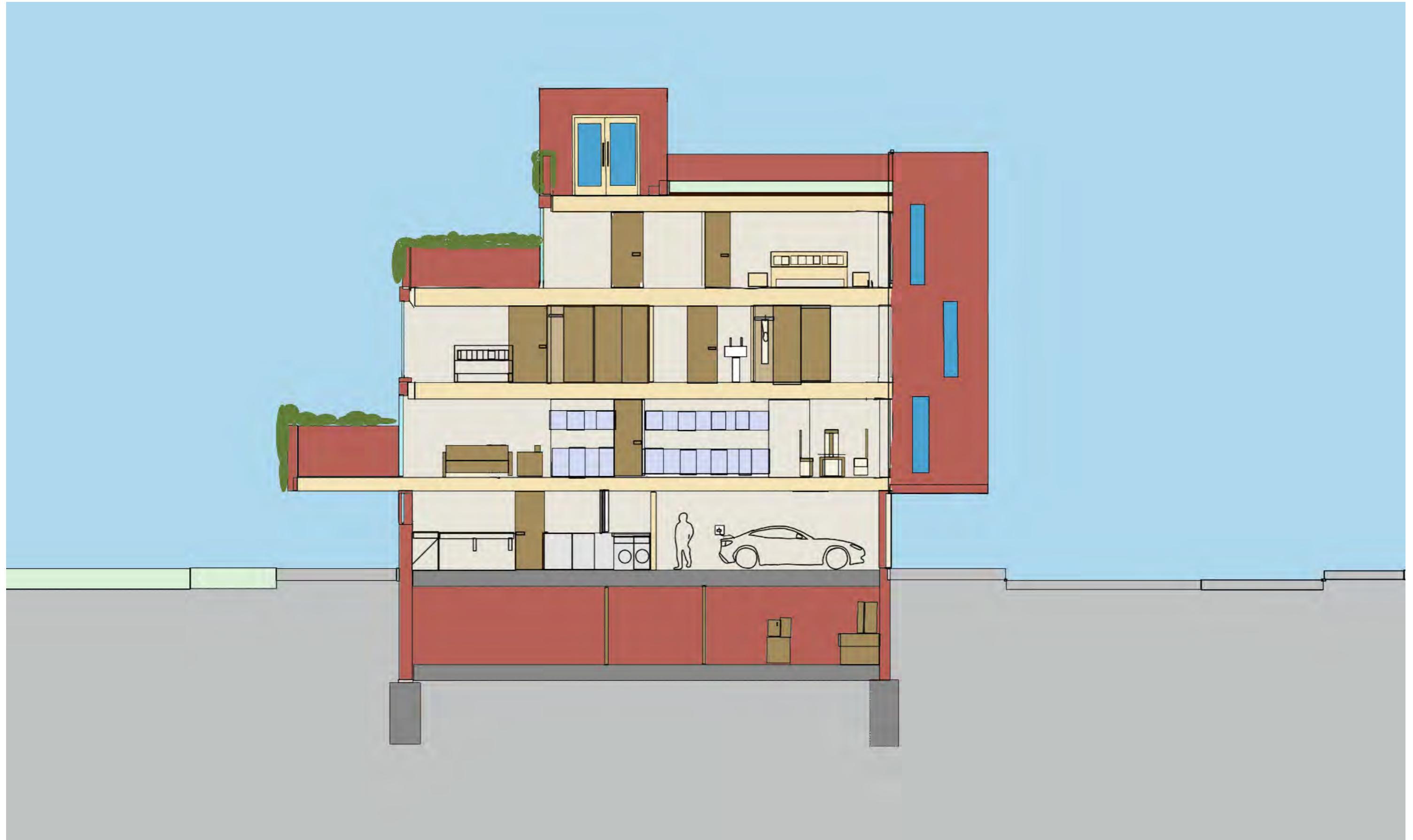
Floor Plan



Walls for utilities





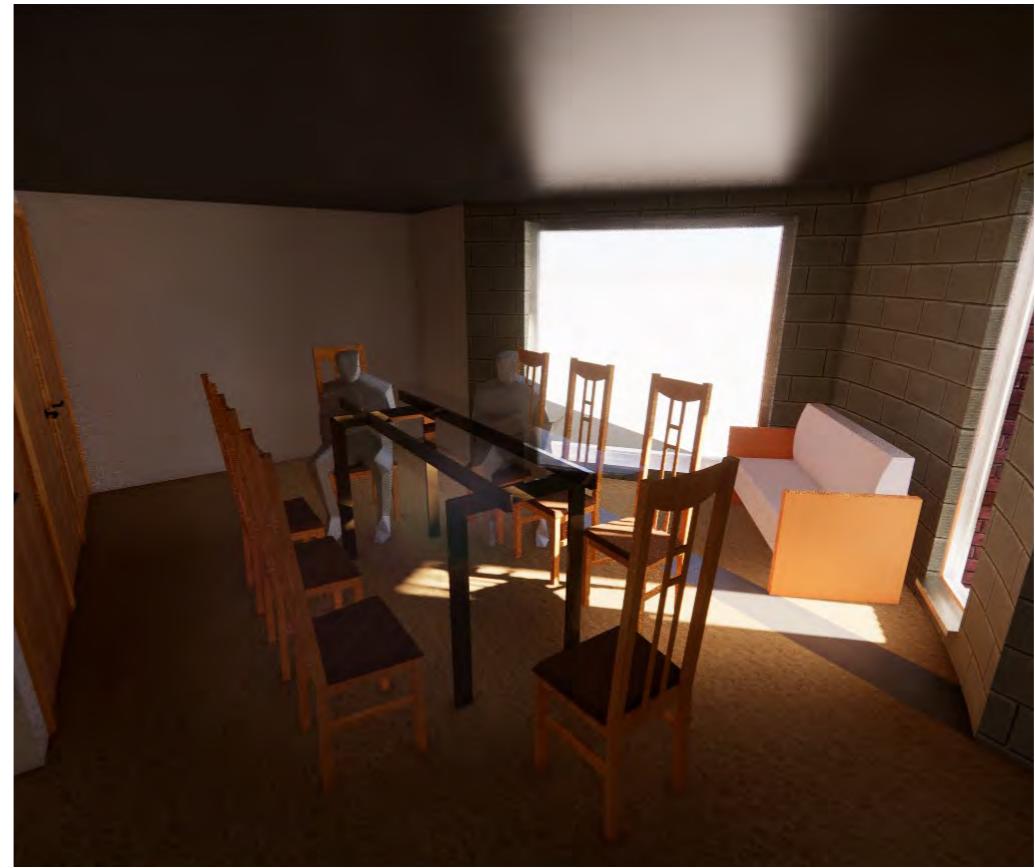




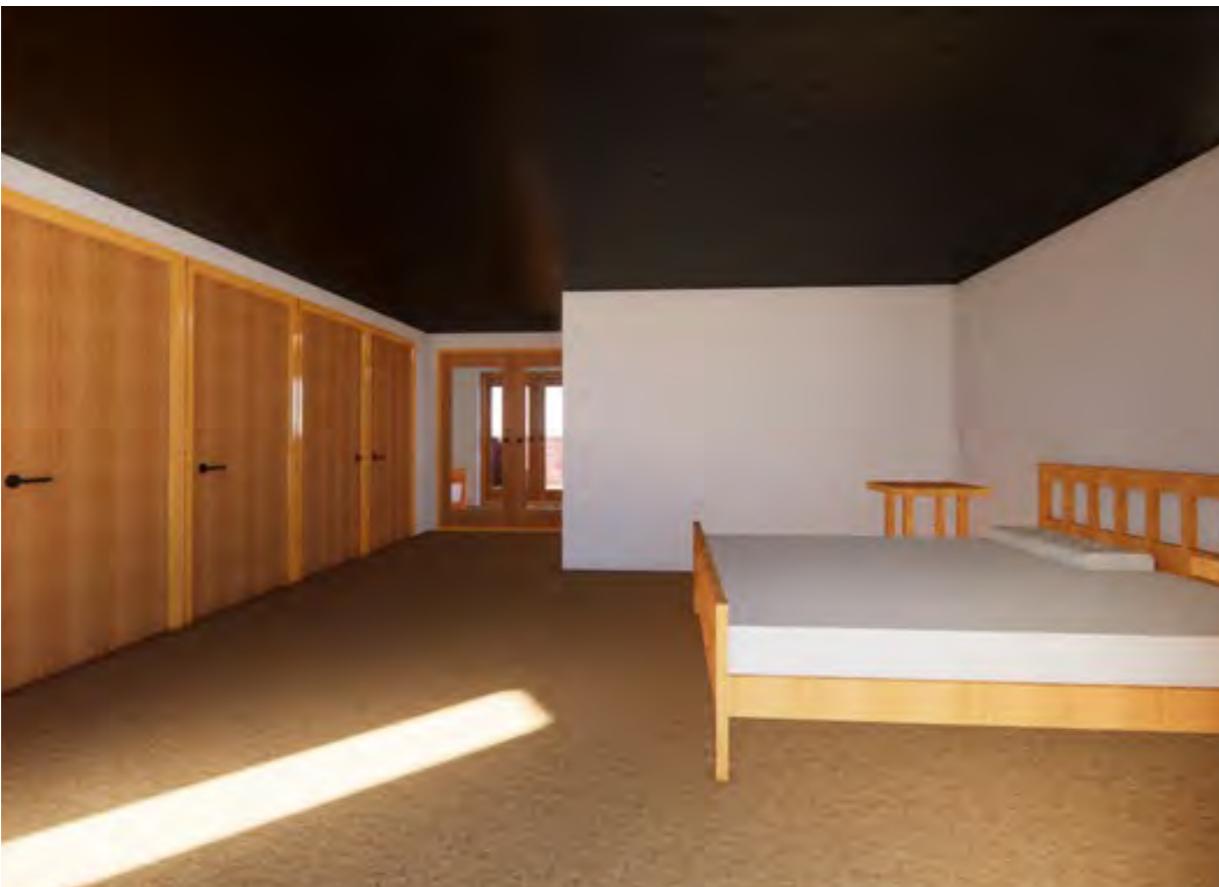
Entrance from park has the opportunity to sit down and socialise and leaves dirty shoes in this area instead of the rest of the house



Community centre is multifunctional. I have also designed it to blend into the west façade.



Replacement storage space with extra units for residents



Master bedroom



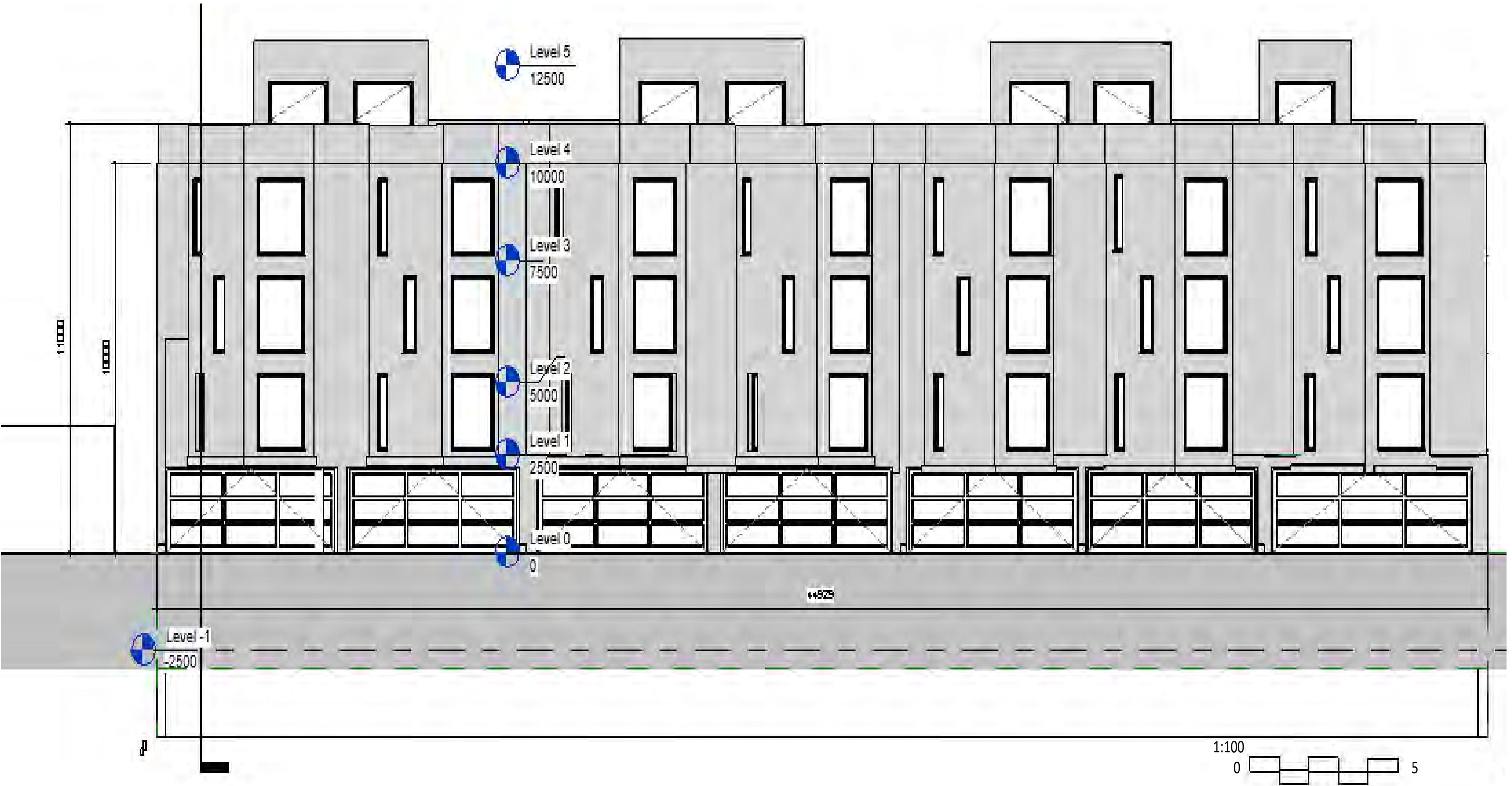
Childs bedroom

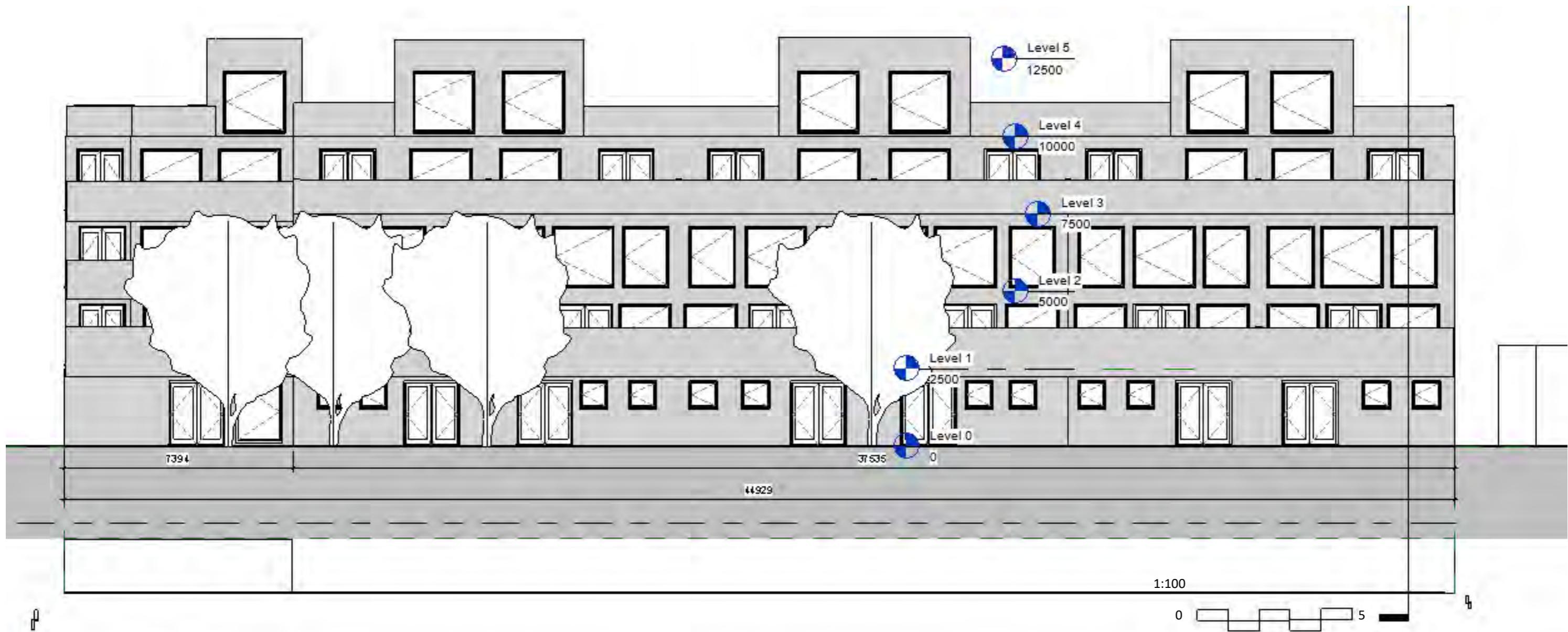


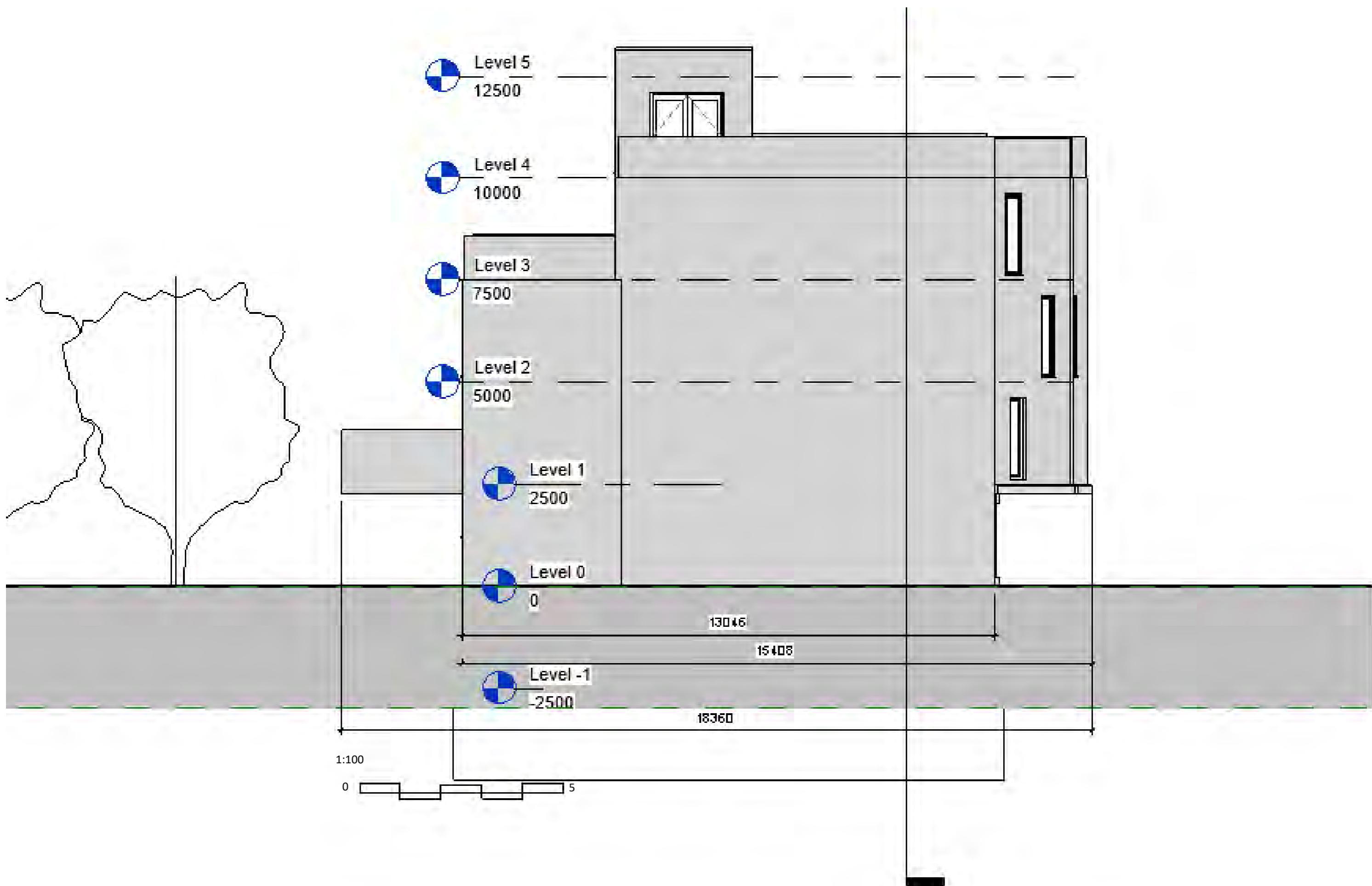
Childs bedroom

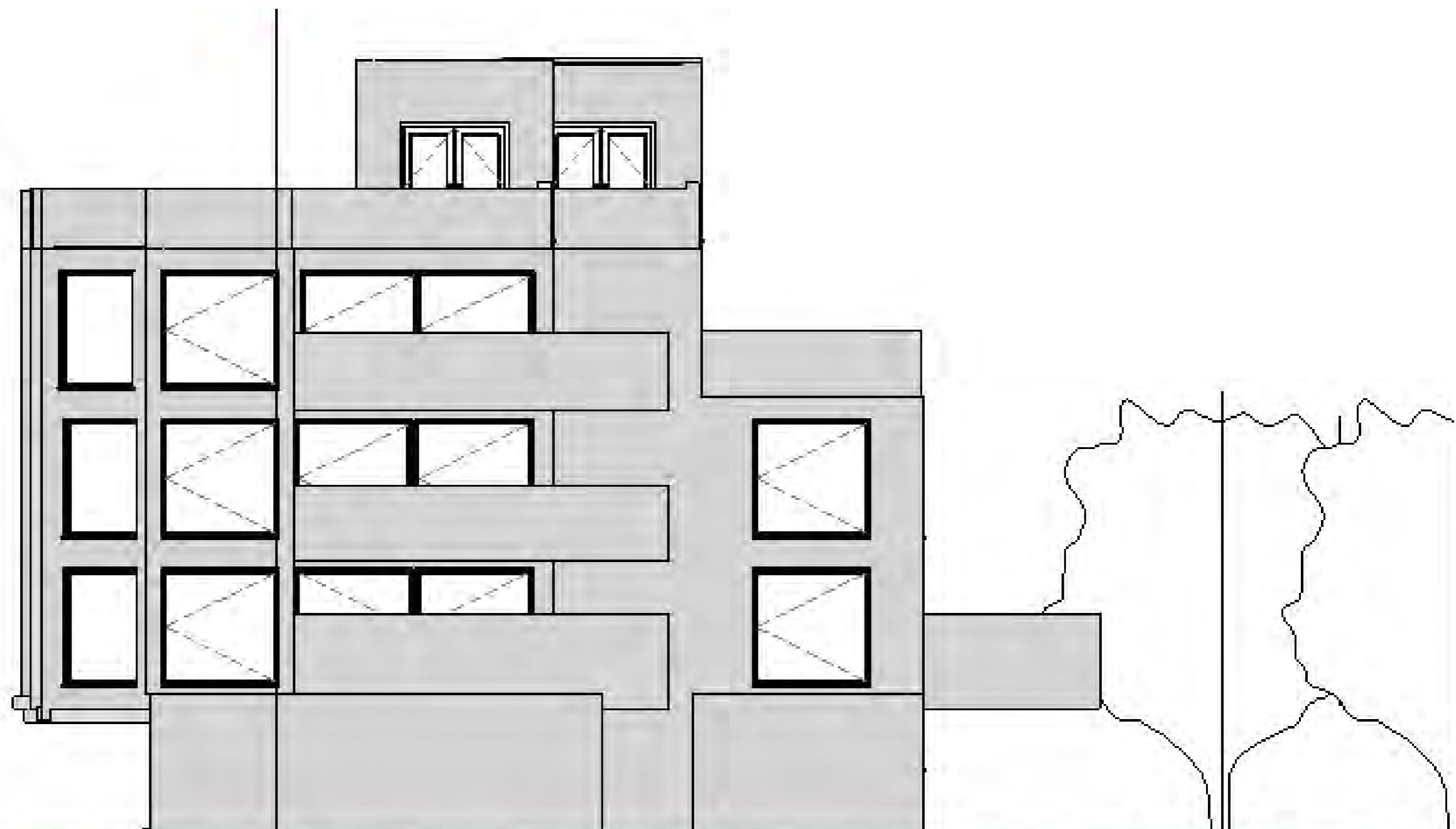










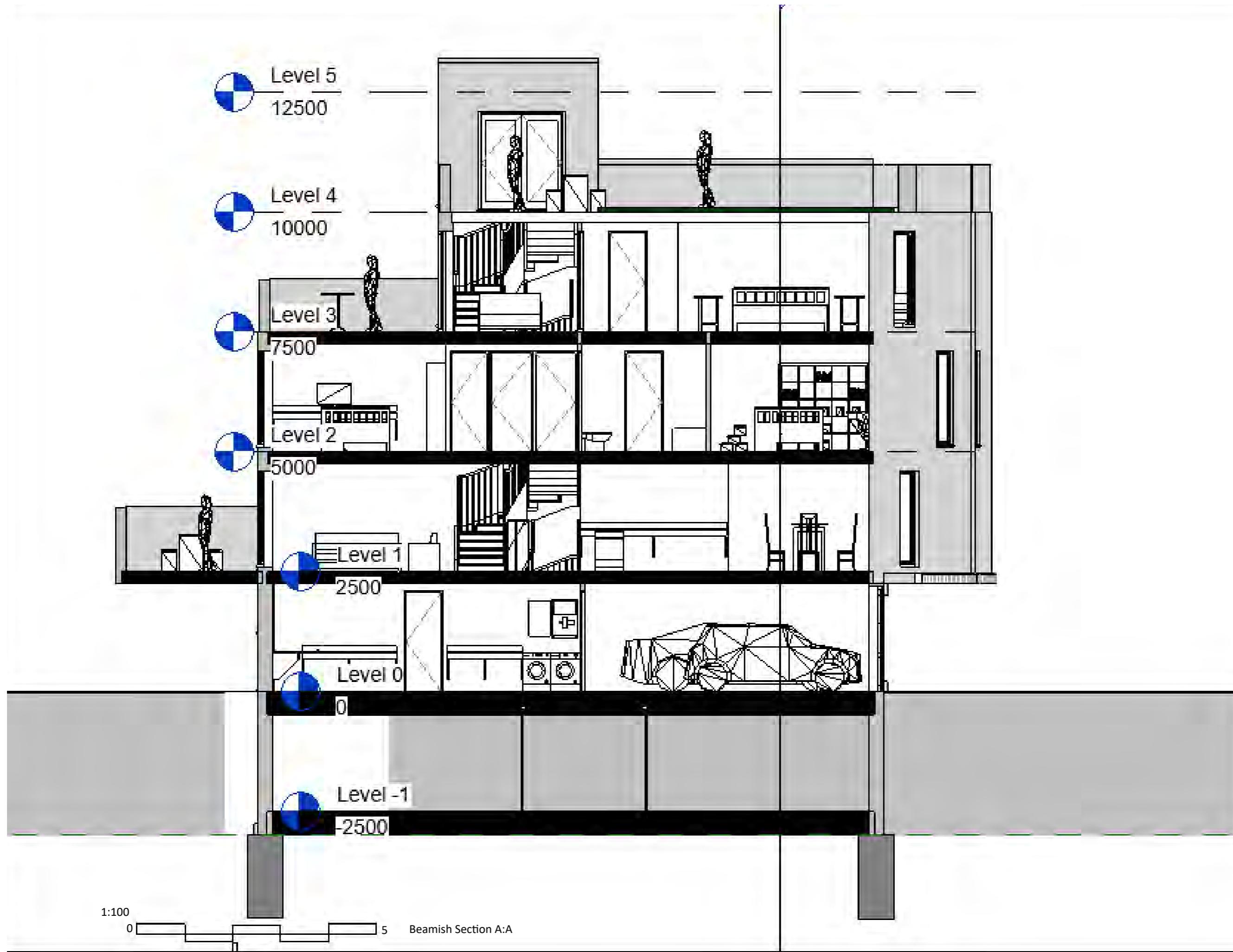


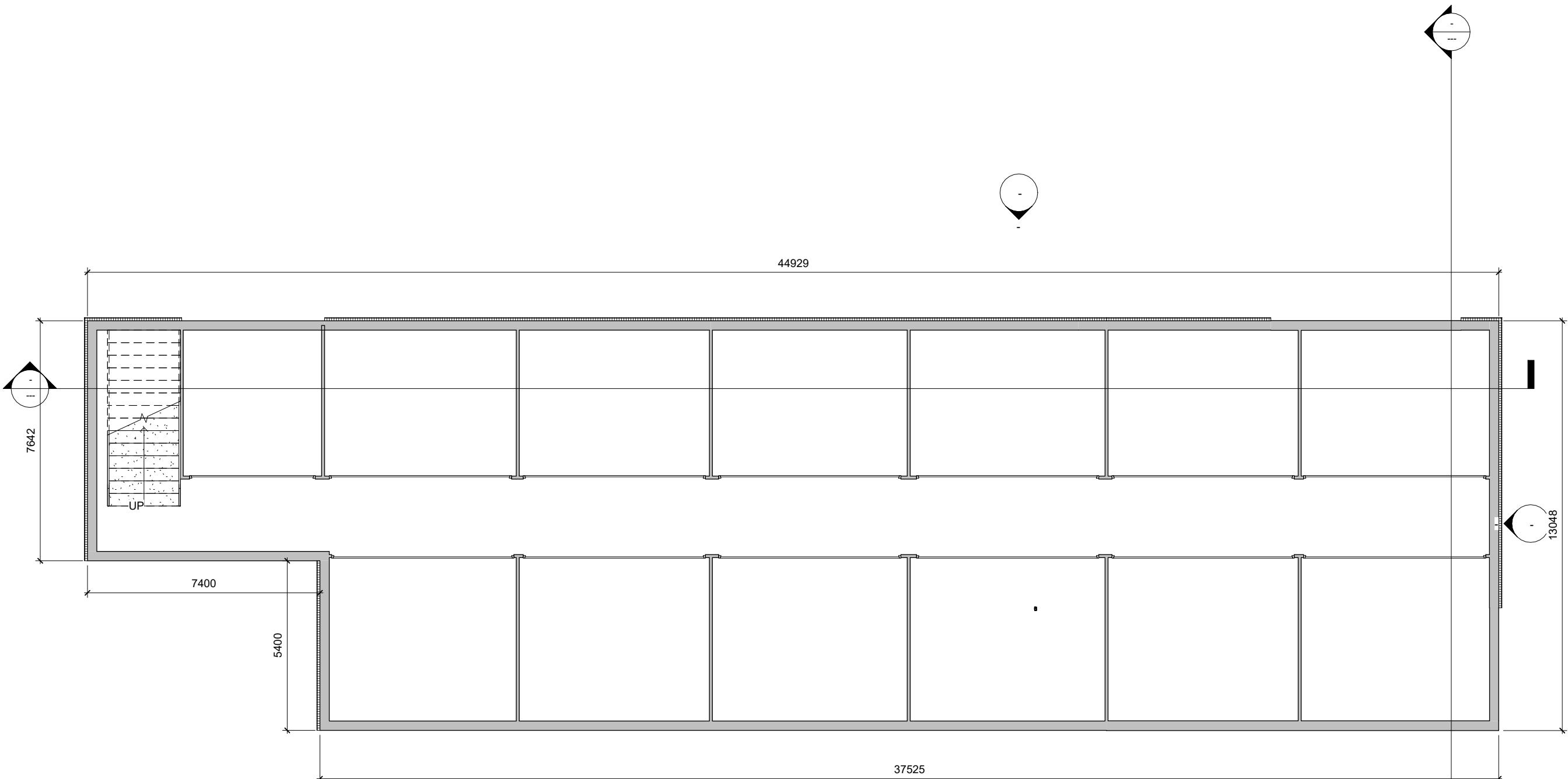
13017

Level -1
-2500

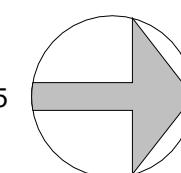
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0 5

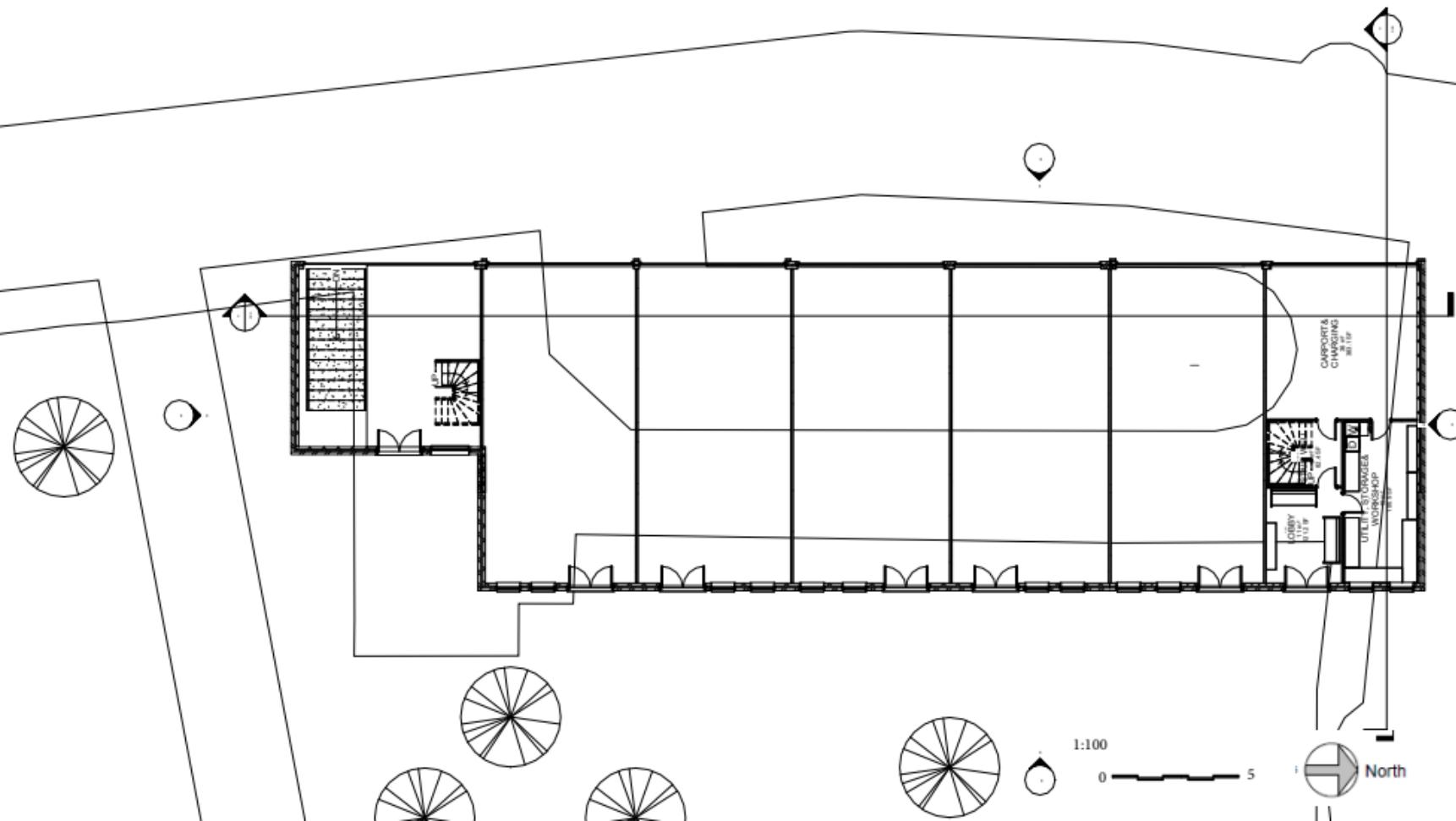


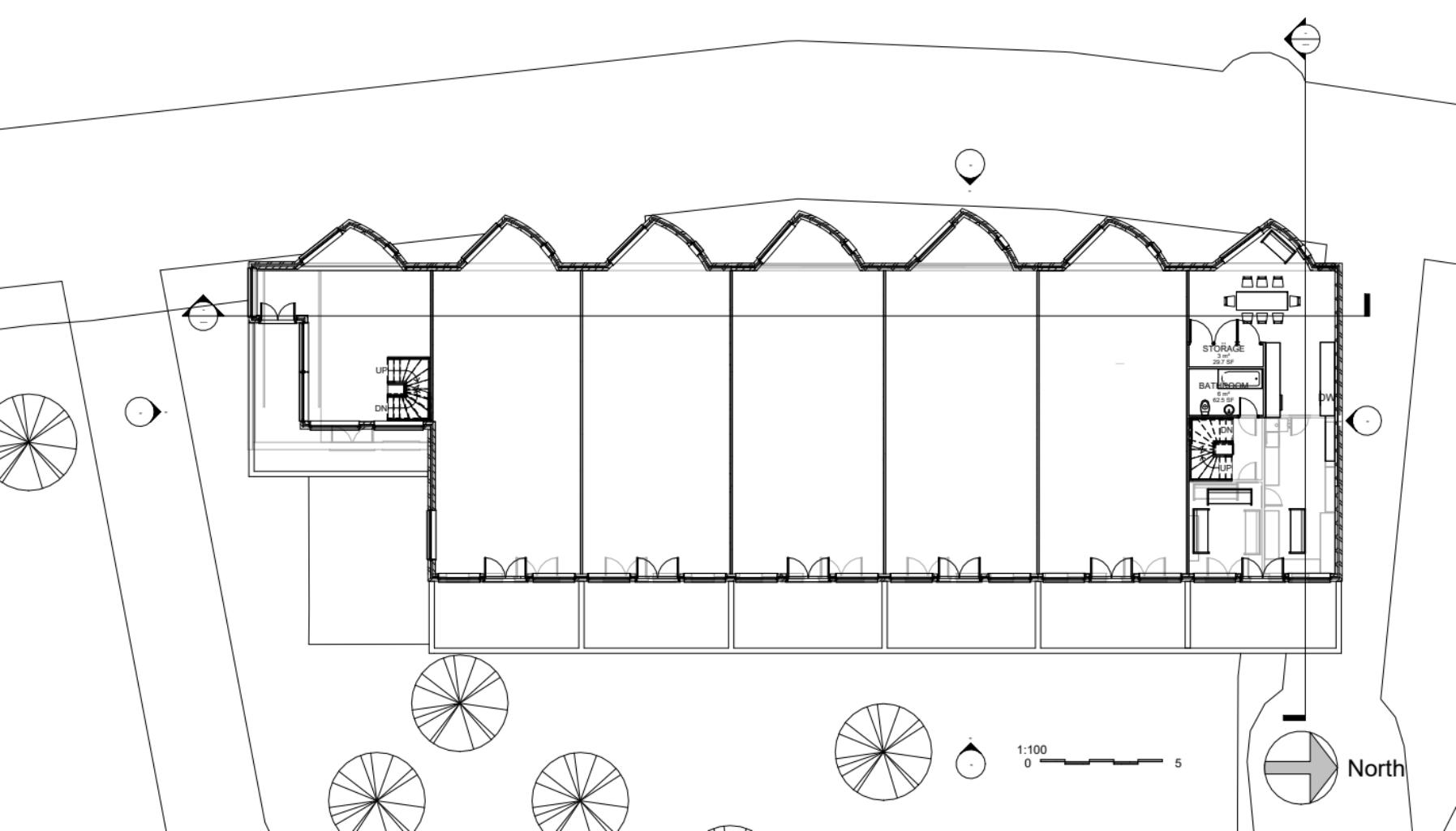


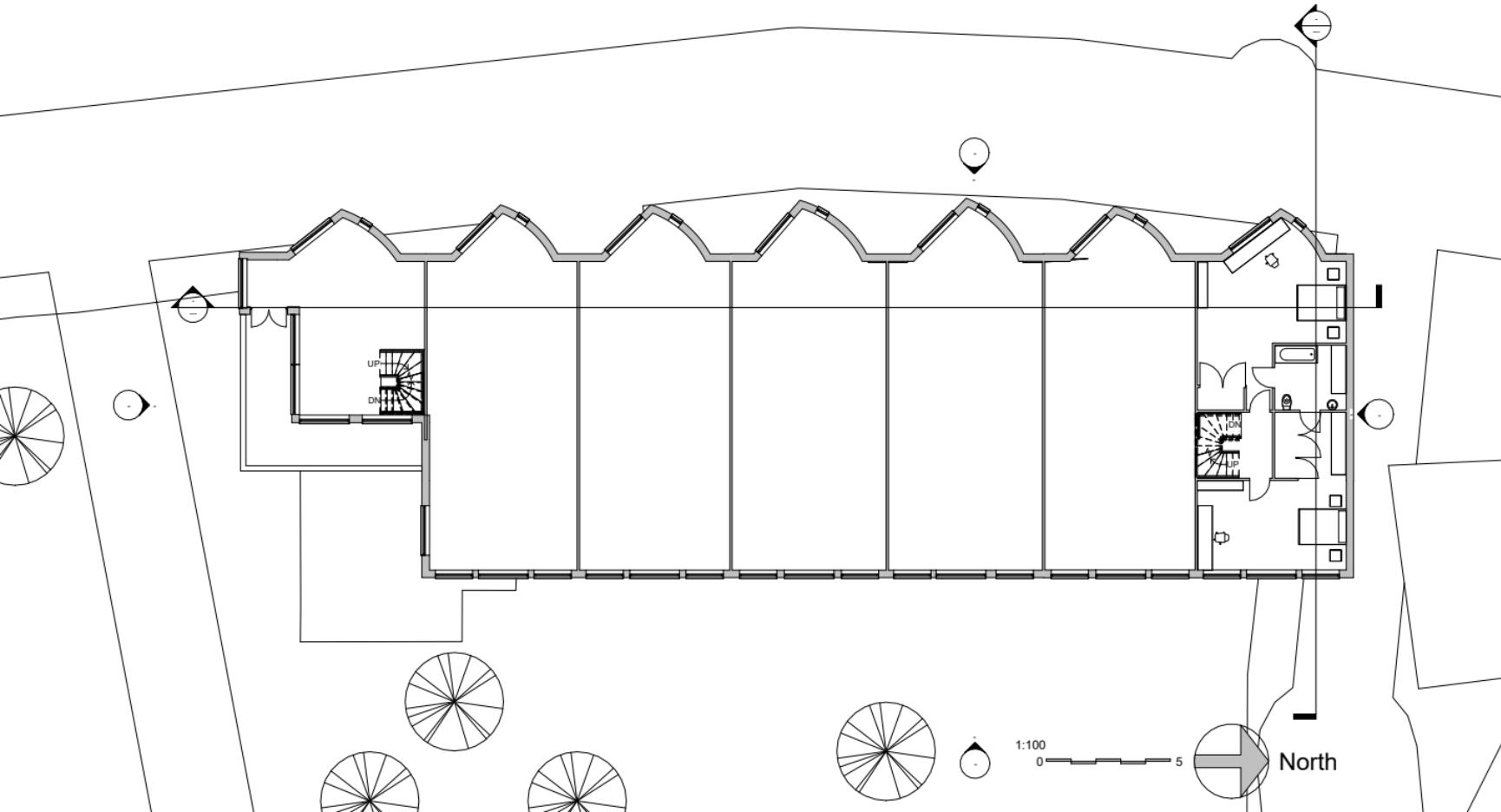
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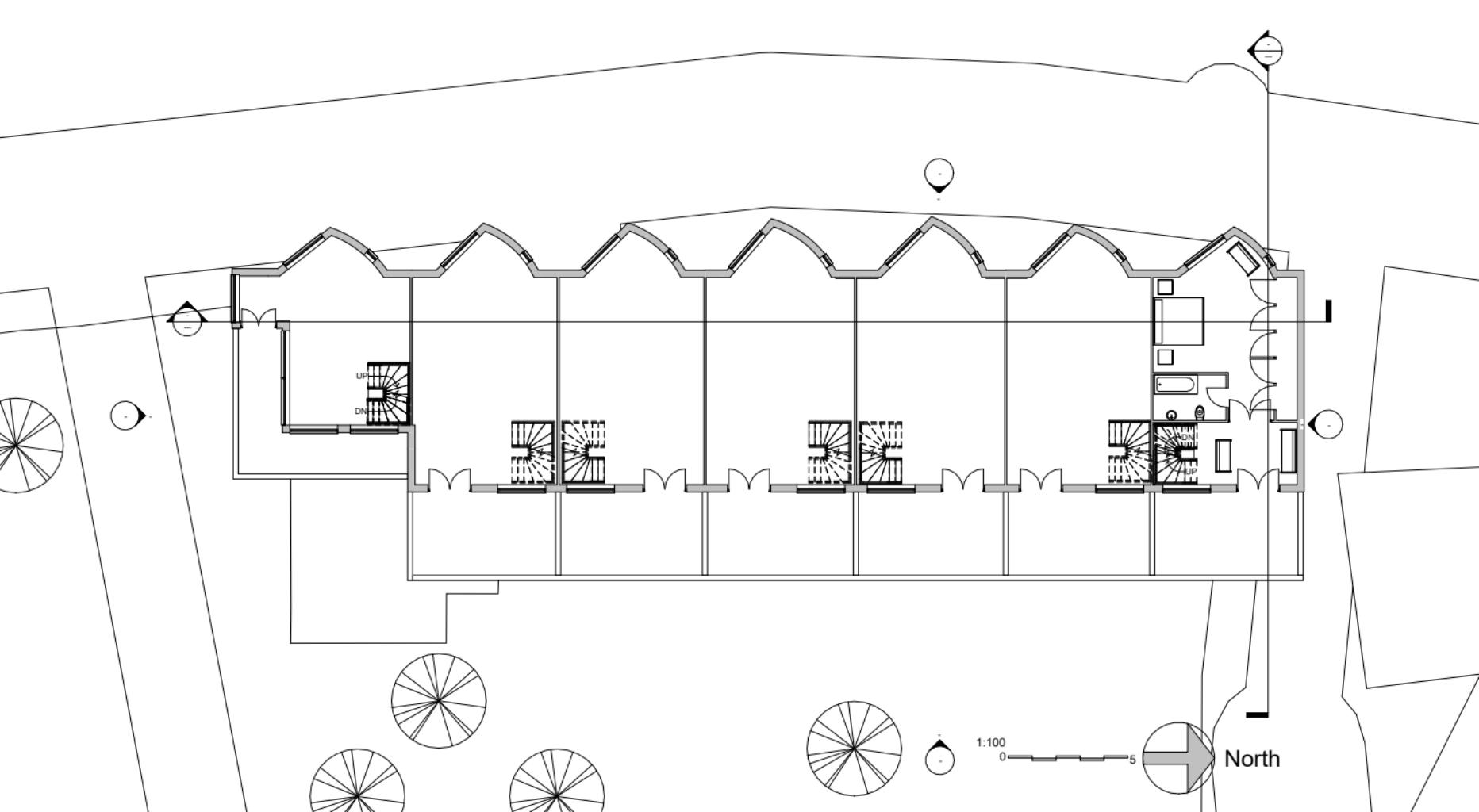


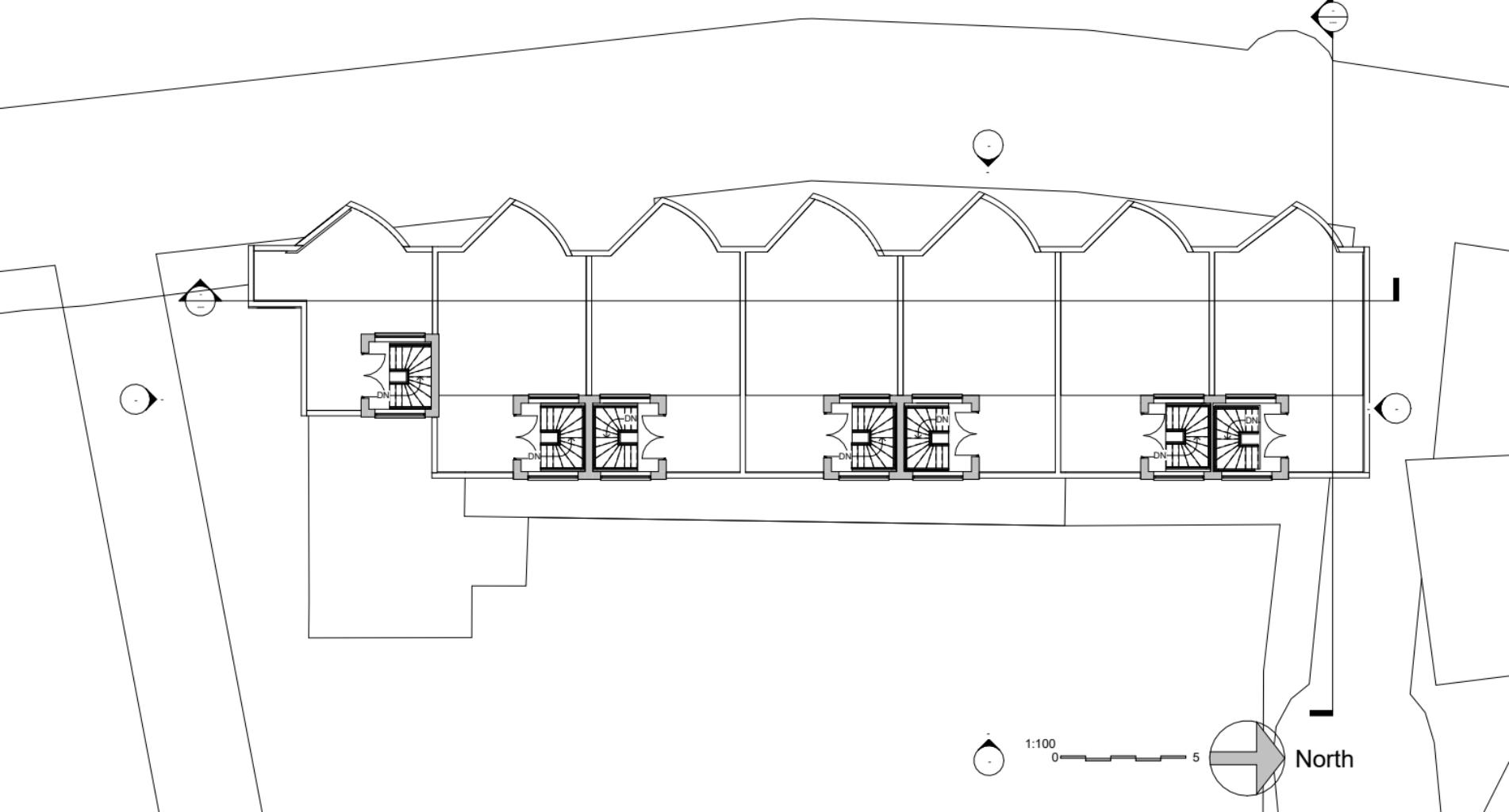
North

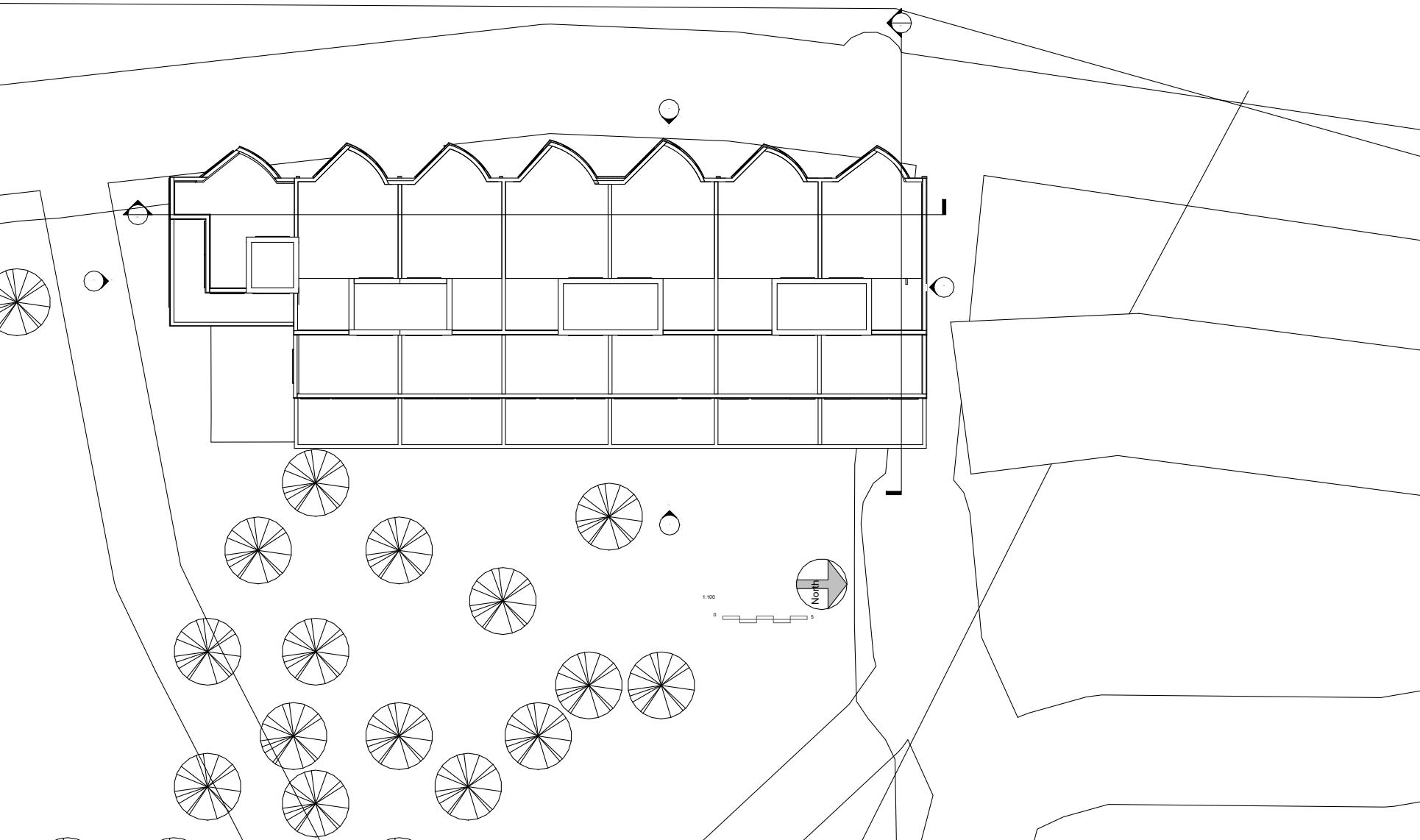


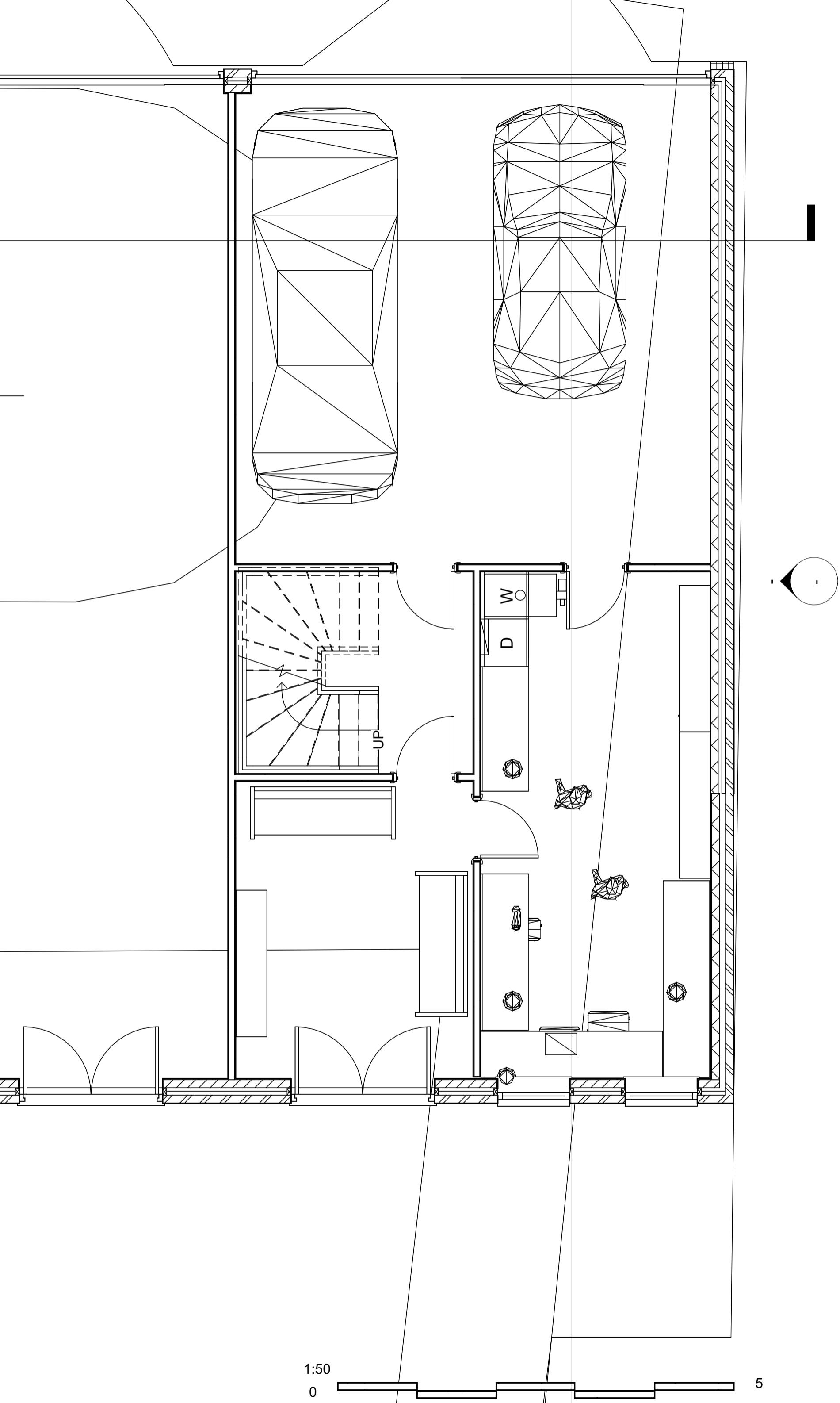


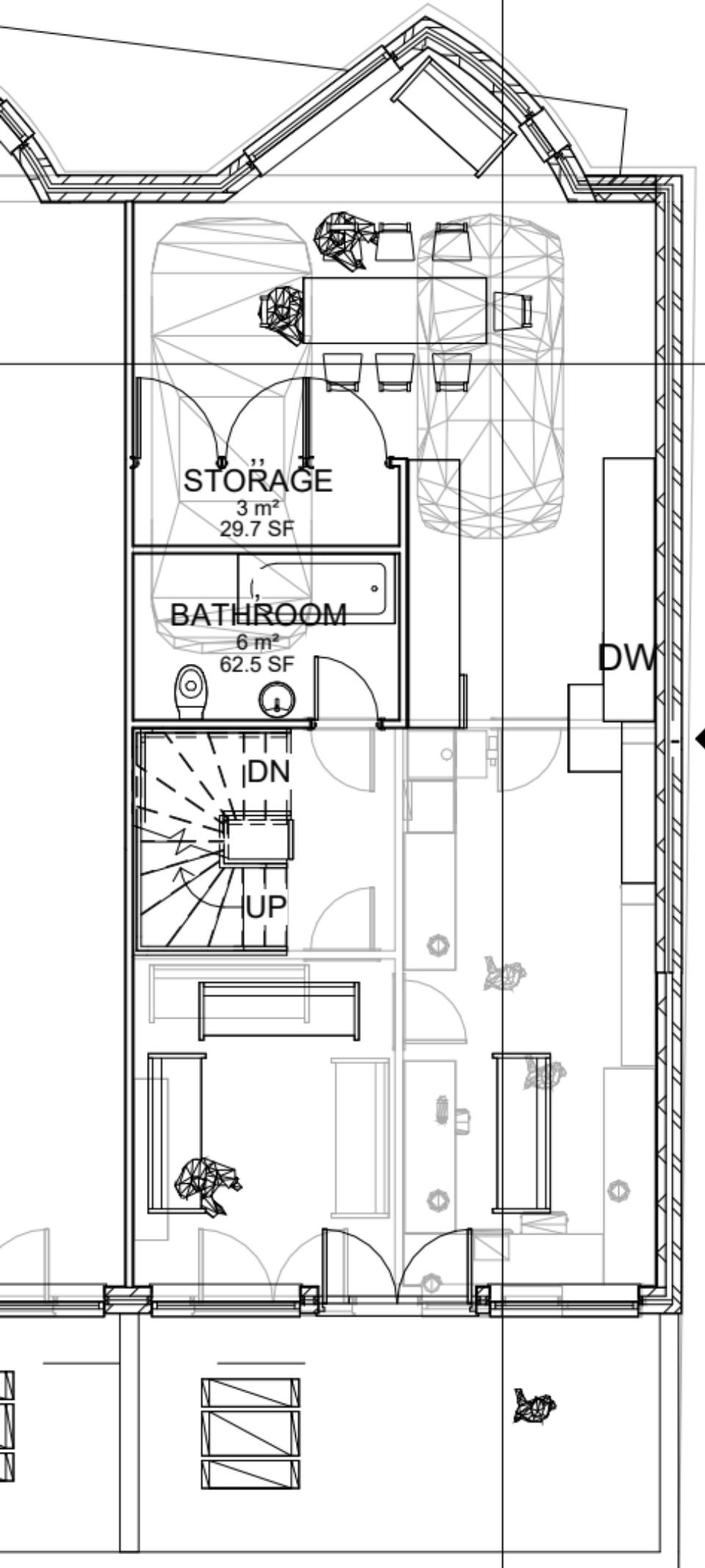








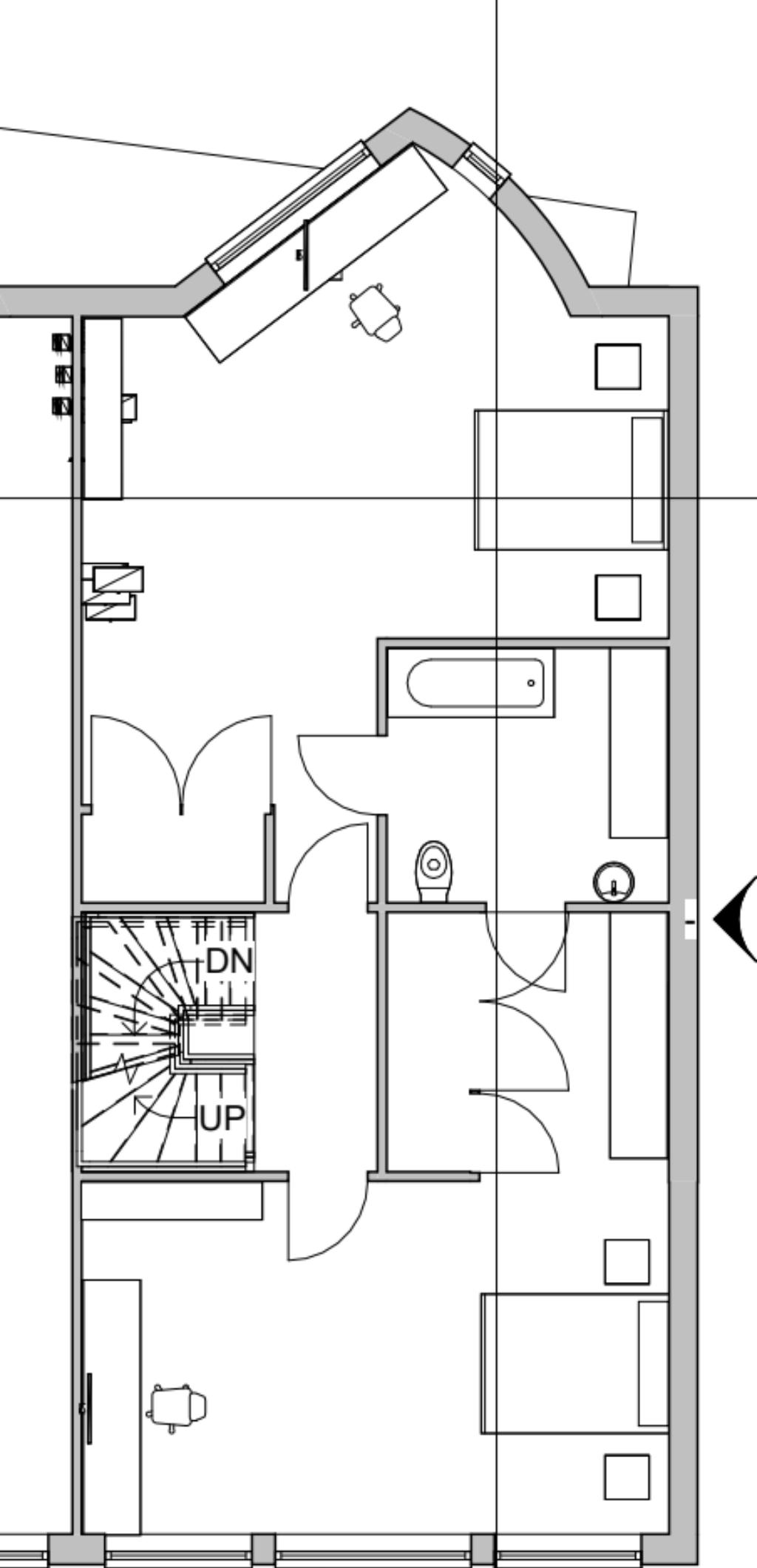




1:50

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CONSTRUCTION & MATERIAL STRATEGIES

Construction Method 1



A crane is required and moving panels can potentially be dangerous for people on the ground because of the large area of the panel it is difficult to keep track of where it is going.



Meaning:
Structurally Insulated Panels

SIPS

Material Construction

Materials Composition
OBS board (chipboard)
either side, glued to
rigid polyurethane
(solid insulation)

Reasons For Choosing SIP's

- Sustainable
- Quick Construction
- Thermally Efficient
- Does not take up as much space as straw bales
- Accurate
- Can be prefabricated with windows and doors.
- Relatively low carbon footprint
- Low skill construction
- Airtightness
- Minimal thermal Bridging
- Can make vaulted ceiling with panels

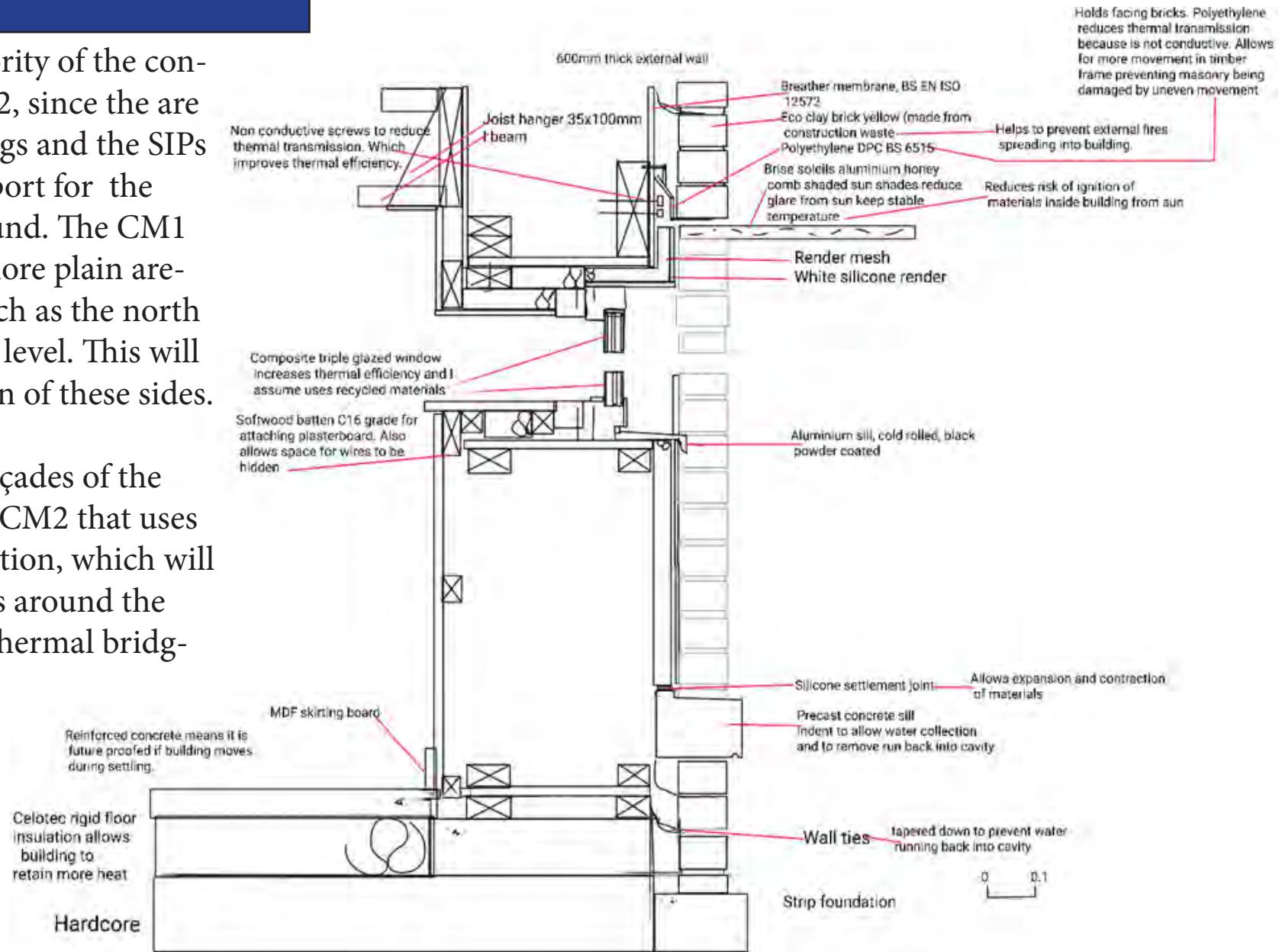
https://www.kingspantimbersolutions.co.uk/en-gb/build-systems/structural-insulated-panels?gclid=EA1alQobChMI29zG1oWn8wIVUuztCh3gTA1dEAAYAiAAEgLJdPD_BwE

<https://www.youtube.com/watch?v=un5uwdcw4hQ>

Construction Method 2

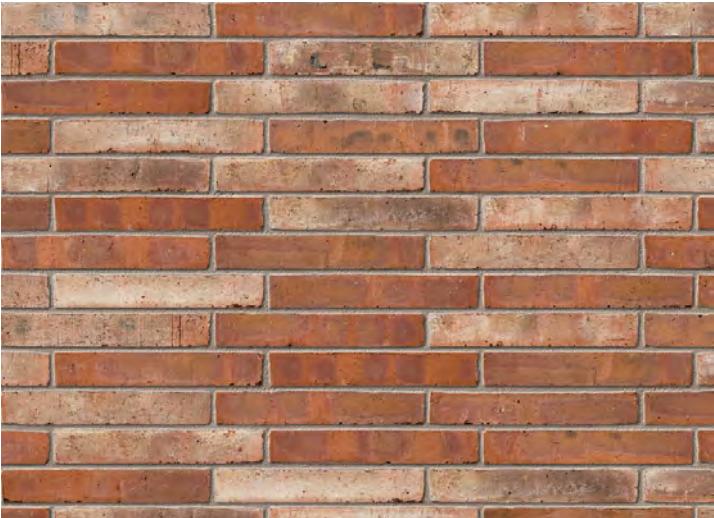
This is what the majority of the construction will be CM2, since there are large window openings and the SIPs panels will need support for the five floors above ground. The CM1 can be used on the more plain areas of the building, such as the north and the ground floor level. This will speed up construction of these sides.

The more complex façades of the building will require CM2 that uses spray cellulose insulation, which will be able to fill the gaps around the openings- reducing thermal bridging.



Material Research (facade)

<https://www.ibstockbrick.co.uk/brick-selector/>



IBSTOCK BEAMISH BLEND (The brick I am going to be specifying).

- Manufactured locally in Ravensworth Birtley
- Make the building stand out
- The bricks can be at different angles having more impact than standard sized bricks.
- Similar to the Robie house

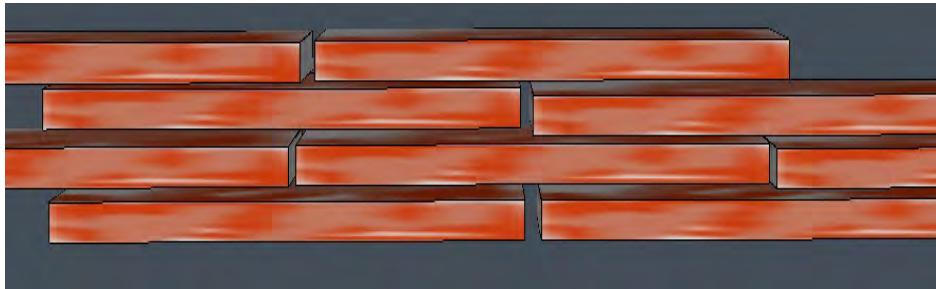


Animal/ bug nest

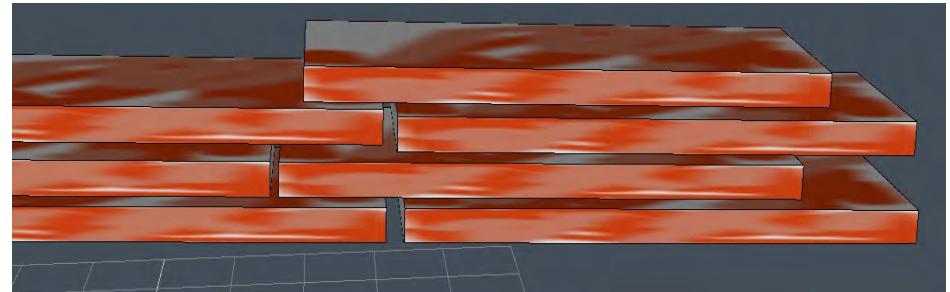
- They should be added to the exterior of the building.
- Without researching I would have forgotten
- Bird nest can be designed and created by the community to get to know each other.
- I have chosen the Name Haven Terrace because I was it to be a Haven to both Humans and Wildlife

https://www.amazon.co.uk/Selections-Hanging-Teardrop-Insect-Butterfly/dp/B08D6RZH6W/ref=asc_df_B08D6RZH6W/?tag=googshopuk-21&linkCode=df0&hvadid=463306880102&hvpos=&hvnetw=g&hvrand=17892074648529471164&hvponer=&hvptwo=&hvqmt=&hvdev=c&hvdvcndl=&hvlocint=&hvlocphy=9046781&hvtargid=pla-977300688662&psc=1

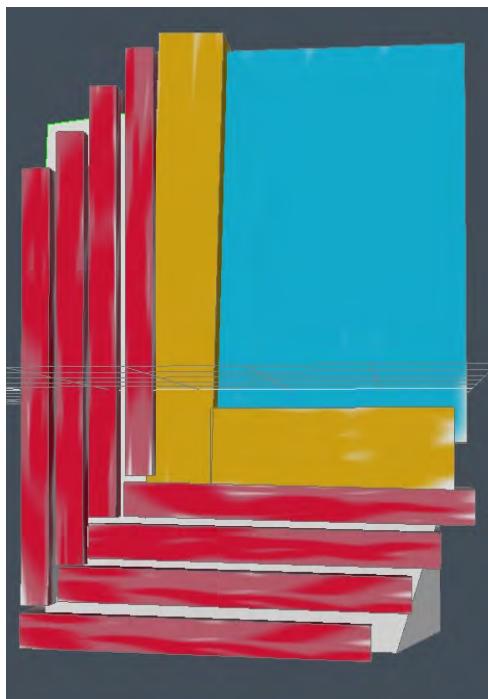
Material Research (facade)



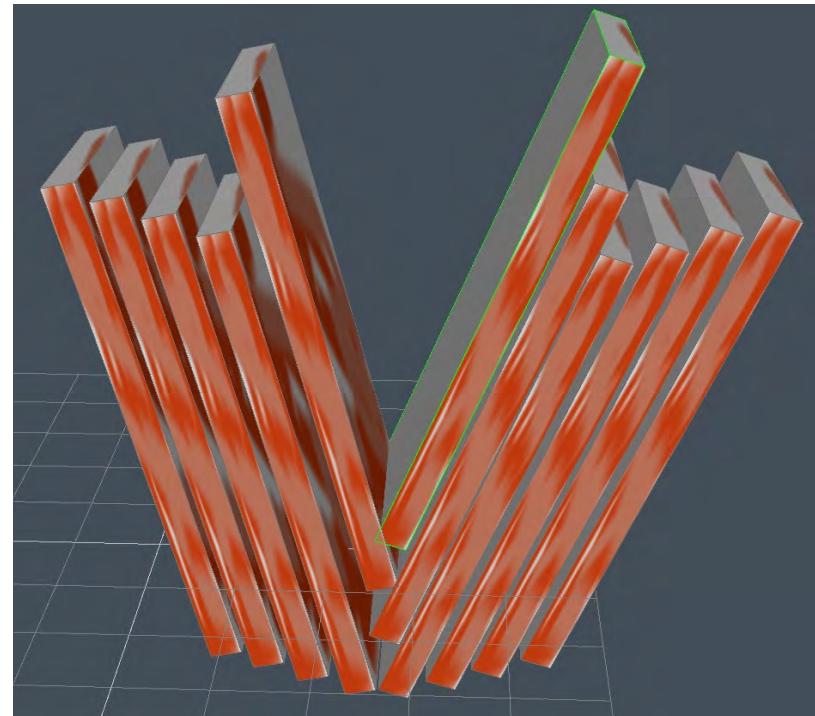
Used for northern elevation.



Used all other sides of the building.



Brick detailing surrounding windows- bricks protrude from facade to give more character.



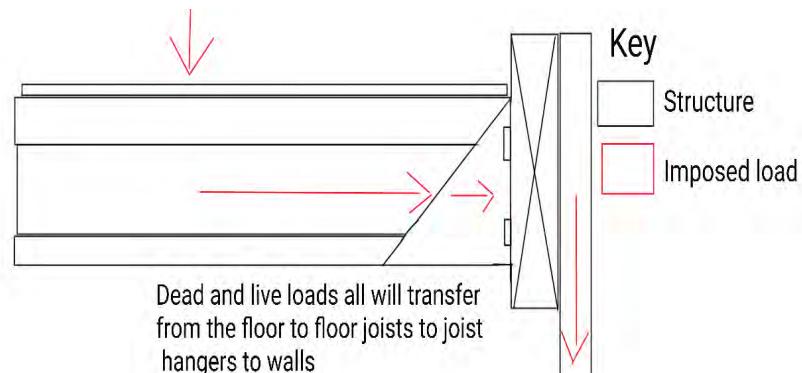
Used on parapet

Floor & Window Specification

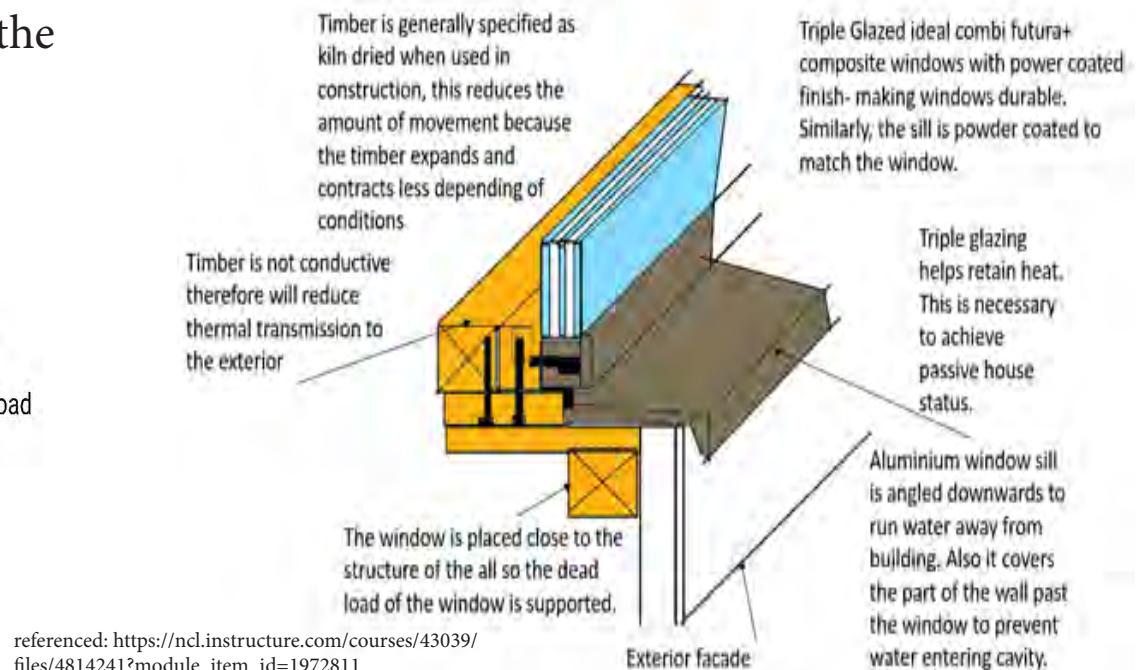
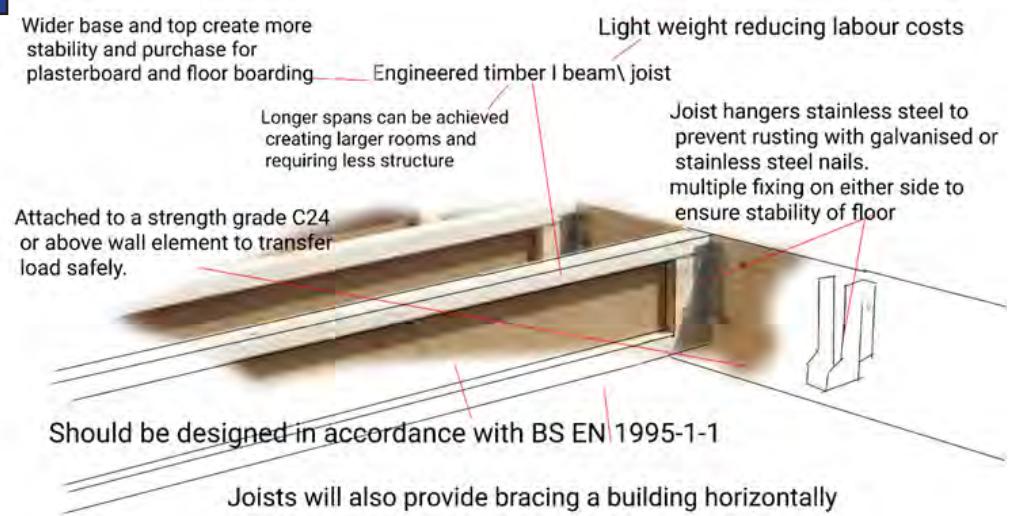
I Joist make it cheaper to change the layout of the property because there are no load bearing internal walls, since the I Joist can span the full width of the dwelling.

Brackets will reduce thermal bridging compared to being hung in the walls, meaning cheaper energy bills for occupants.

Triple glazed windows will increase thermal efficiency, also reducing the energy demand on the environment.



traced over: https://ncl.instructure.com/courses/43039/files/4814241?module_item_id=1972811



Summary

- Making sure that my project benefits the people of Shieldfield.
- I am going to make the most of the park to create a more welcoming atmosphere compared to the current storage units
- I am going to replace the storage units with extra space and units for the residents that use the existing storage units on the site
- Also I am going to provide temporary storage for the locals with shipping containers placed on the park
- I am going to use local materials to clad the building to be in keeping with the area; also less carbon footprint and gives jobs to local area
- I am going to create a design that I intend to be durable with the brick facade- less energy for upkeep
- The community area will allow residents from the development and sometimes from the wider area to socialize
- I have designed the building to have large amounts of outdoor space
- I have included large windows to let in natural light.

Summary

- I have designed the terrace to my family type instead of for the profitability of the housing scheme
- I have introduced generous floor plans to provide room for modification to the buildings layout in the future. I had to include this space in the current design because the roof garden would restrict further development
- I have included large amounts of natural light, which will benefit the occupants mental health.
- I have designed large outdoor area that are safe for children
- Easy access to the park and the option of entering from the park promotes walking and using the park
- Alternatively, there is a carport integrated into the design that also can charge the vehicle for the occupants convenience- promoting the use of sustainable travel.
- I have considered elevations that have most heat loss and introduced smaller windows to combat this.

END