

# RE-ENERGISING THE ROYAL CANAL

**David Boles**

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Proposal : Dublin Food Co-op Greenhouse  
and Jamies Farm School

Location: Royal Canal Between Lock 2 & 3 Parallel  
to St Ignatius Rd

\_Building a Community Around Nature in the NEIC

# RE-ENERGISING THE ROYAL CANAL

C17406212

David Boles



**Image:**  
1980 NEIC, Life Along The Royal  
Canal.

## Introduction

The North East Inner City has long been a broken link in Dublin's city social chain. It has a rich history which is sadly overshadowed by its larger number of social issues, such as vandalism, homelessness, destruction of property, improper rubbish disposal. Living along the Royal Canal, is to live in a hub of activity and a way of life. People socialise, mingle and commute along the canal. Much more so in a way than it would ever have intended it to be used when it was built. The above image became a key inspiration throughout my project. The energy and the life within it was what I hoped to re-create through monitoring the interactions experienced with nature and people



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THE  
ROYAL  
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## Semester I

### Introduction

David Boles

#### Sheriff Street Bridge,

My interest was first sparked with the Sheriff Street Bridge. It has had a strong standing in the landscape for decades. This is what first drew me in as my first area of interest within the NEIC. It is a landmark to the city and an instant nod to the industrial past once experienced by the area. It is the a gate way to the Royal Canal and successfully served its purpose to it users. Much like everything else within the city, it has since been long forgotten about and neglected. Although this disused and derelict piece of infastructure has its own rusted red beauty. It draws the curiosity of it users along the Royal Canal Greenway. There is an energy that surrounds this iconic landmark. The history, the people, the space and the life all along the entirety of the royal canal is clearly evident to see. This is what I hope to harness in my Thesis Project.



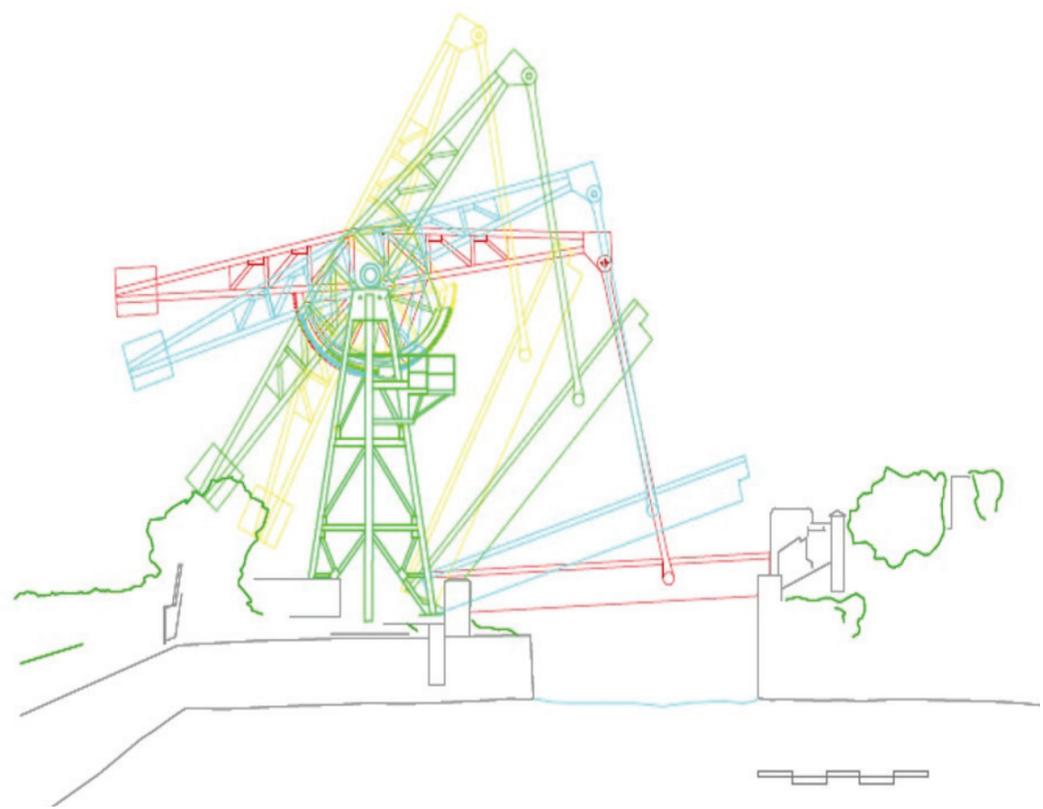
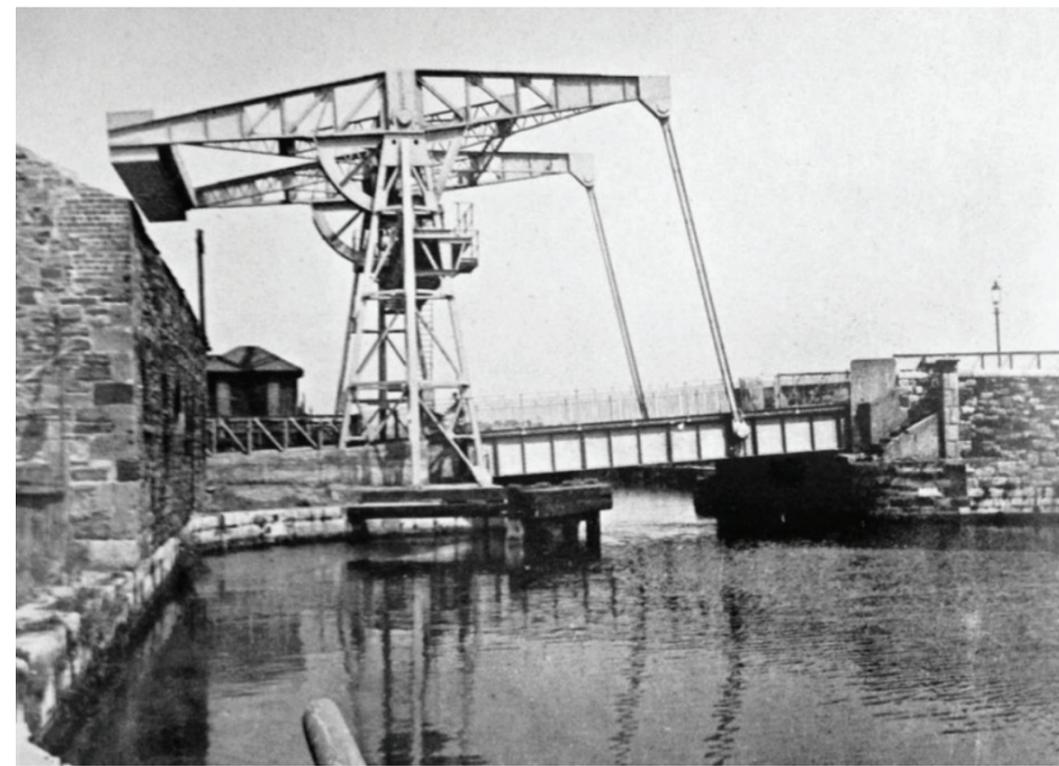
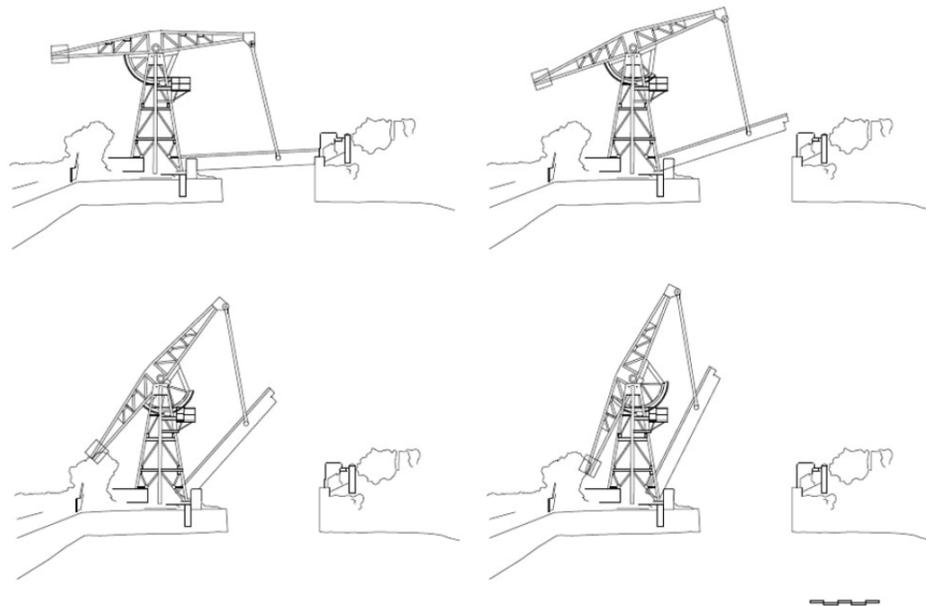
#### Image:

*Sheriff Street Bridge Semester I*

# Semester I

## Inspiration

David Boles



**Top Left :**  
*Sherriff Street Bridge Motions at 15" intervals*

**Bottom Left:**  
*Description of drawing/image. Sheriff Street Bridge 1970's*

**Top Right:**  
*Current Image*

**Bottom Right:**  
*Motion Image of bridge in movement*

## Semester I

### Inspiration

#### David Boles

When Architects Express ideas, they often do so in a way that draws upon and requires involvement in the deployment of vast material and human resources." (Fitz et al., 2019)

Upon reading "Critical Care, Architecture and Urbanism for a Broken Planet", I was struck by the above statement. It screamed to the idea of overbuilding. The more I looked around my immediate surrounding area, North Dublin City, I was taken aback by just how overbuilt it is. The severe lack of nature began to surprise me, if not shock me. I looked towards drastic ideas that might become a solution to help change this. I first found the concept known as Rewilding. Rewilding is the process of reestablishing the original nature and ecology to an area, using as much native flora and fauna as possible to rebuild its natural networks. It is a solution albeit a severe one. It wasn't however the solution required at this time. The downfall was implementing rewilding in an overpopulated urban city environment (Dublin) was not feasible

#### Top :

*Typical Boat passing between a lock in 1980s on The Royal Canal.*

#### Bottom:

*Collage of Photos from The Royal Canal Bridges*

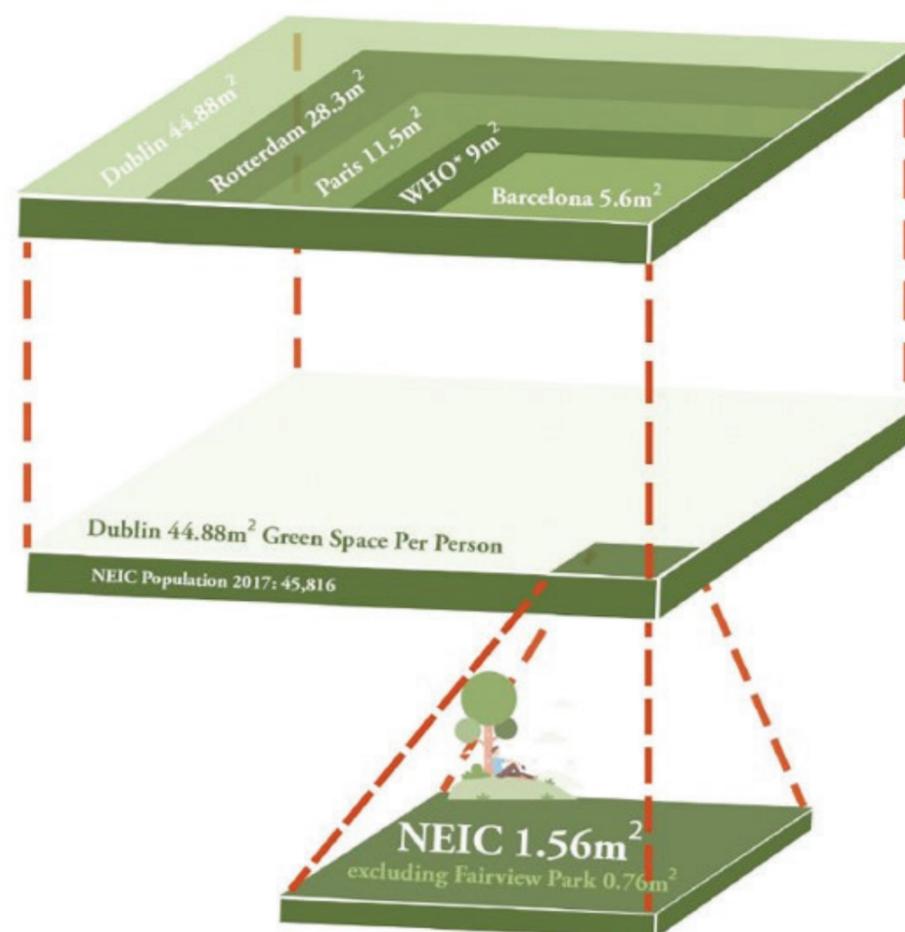


## Semester I

### Inspiration

## David Boles

A city where land value and accommodation quickly outweigh the need for overgrown landscapes. Instead, I began to look towards a more simplified approach. I started to look towards the positives within which nature could provide for its inhabitants. A sense of belonging, a sense of ownership, a sense of pride, place and community, not to mention the much talked about mental gains to these inhabitants. My interest began to look more towards these minor interactions with nature around its surrounding areas. I started to see more areas for opportunity and development. More areas for the inclusion of both nature and people alongside each other coexisting. The Northeast Inner City suffers drastically from a lack of shared public spaces, which are open to all communities.



#### Top :

Urban Green Space Per Person

#### Bottom:

Urban Green Spaces of the NEIC

You can see on the image below that there is a minimal amount of green public spaces in the areas where people freely meet and congregate. This is improved when you include some of the semi-public spaces, but a large proportion of these are fenced off and are inaccessible unless you are already a patron of the building. Dublin city as a whole when compared with other European cities measures up very well with regard to open green space per person per square meter. It has 44.88 m<sup>2</sup> of green space available per person. The world health organization recommends 9 m<sup>2</sup> of green space per person. Barcelona another large European city has 5.6m<sup>2</sup> of green space per head of its population (Russo and Cirella, 2018).. Dublin as a whole measures up to this standard very well as you can see. This is mainly due to large open spaces like Fairview Park and The Phoenix Park. Once you remove these parks and look at a smaller area like the Northeast Inner City the picture is a little less satisfying. There it has only 1.56m<sup>2</sup> of green space per head of its population of the NEIC at 45,816 people (worldpopulationreview.com, n.d.).

## Semester I

### Inspiration

## David Boles

### Nature Within Our Community.

I plan to discuss and develop ideas surrounding the need for nature within a modern-day society. How nature if interacted with in the right way, and in the right places, can in fact help to build upon and even create a community for its people and its inhabitants. The Northeast Inner City of Dublin (NEIC) highlights this drastic need for more human interactions with nature in positive and beneficial ways. These ways can come in many different forms. The form of pride of place, the form of ownership of the area, the form of mutual benefits to its inhabitants. It can be even as simple as benefiting from the flowers or fruits of nature. The governing bodies are slowly coming to realize the importance and relevance that shared outdoors spaces have to our communities. They are an important pillar of requirements to a modern-day town planner. Ireland as a nation has developed over the last 50 years drastically, with people migrating towards a more urban environment.

#### Top :

*Lock Two Approach From Croke Park Direction.*

#### Bottom:

*Typical Site Along The Banks Of The Royal Canal*



Towns have expanded into cities for example Swords has merged into Dublin city due to its geographic closeness. This has led to fewer people living within the remote countryside. Take Dublin city as the most relevant example. It has grown by a steady 1.2% annually for the last ten plus years. The current population is residing at a steady 1.42 million people.



# Semester I

## Background Research

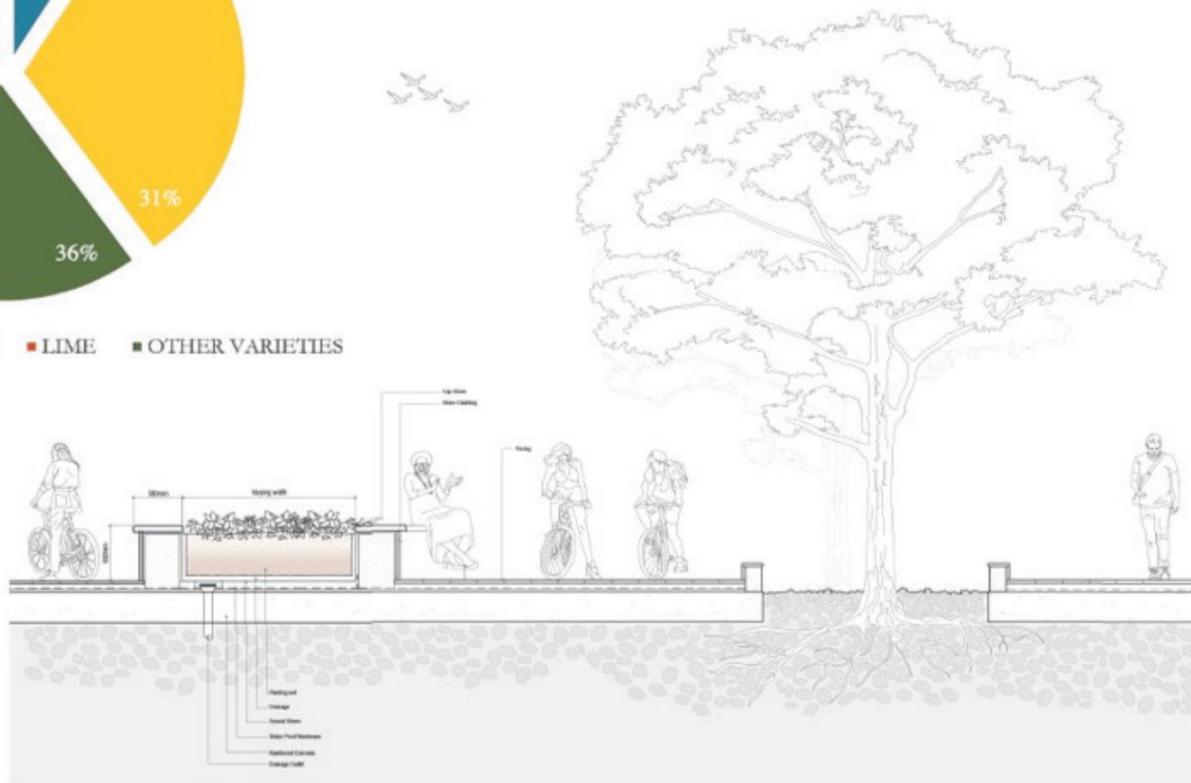
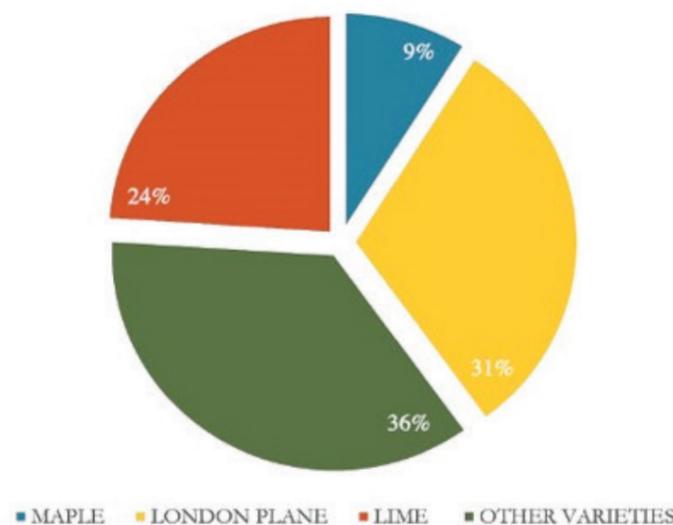
### David Boles

**Our need for nature:**

Our need for nature is ever prevalent in many walks of life. People have a great appreciation and richness which is satisfied when they are in close proximity to nature. Poets have written time and time again about the marvelous wonders and images of nature. People’s wealth has been measured by the sight of their gardens and homes. We have always had a close relationship with nature. Now more than ever the significance and reliance on it is becoming more evident in our lives. “The tropical temperatures experienced by residents across Ireland in the last year saw millions, especially those living in cities, flock to nearby parks, forests, rivers, and lakes. When warmer weather and rising temperatures around us close in, our first instinct is to leave for greener pastures. Leaving behind the concrete jungle of urban areas, for nature” (Rewilding Europe, 2013). Establishing or reinforcing people’s connection with wild nature, is increasingly beginning to be recognized as critical to their mental health and physical well-being. A fact which has been reinforced by the ongoing COVID-19 pandemic in areas, such as Dublin.

**Top :**  
*Tree Species and Roots Structure in urban environment*

**Bottom:**  
*Tree Species Map and Locations NEIC*



The need to create and enhance green spaces around and within our communities has never become greater. I have talked about peoples need for nature, and how the two can greatly coincide. However the staunch reality of this has yet to be fully realised. The positive impacts, of bringing nature back to a community and the affects it can have on that community. are often undervalued. Nature can and has proven to bring people together, increase people’s mental health and physical wellbeing, and help to restore vital values of pride of place. This pride of place is key to any viable and thriving community. Studies conducted by the University of Minnesota showed that 95% of people are calmer after experiencing nature ([www.takingcharge.csh.umn.edu](http://www.takingcharge.csh.umn.edu), n.d.).

## Semester I

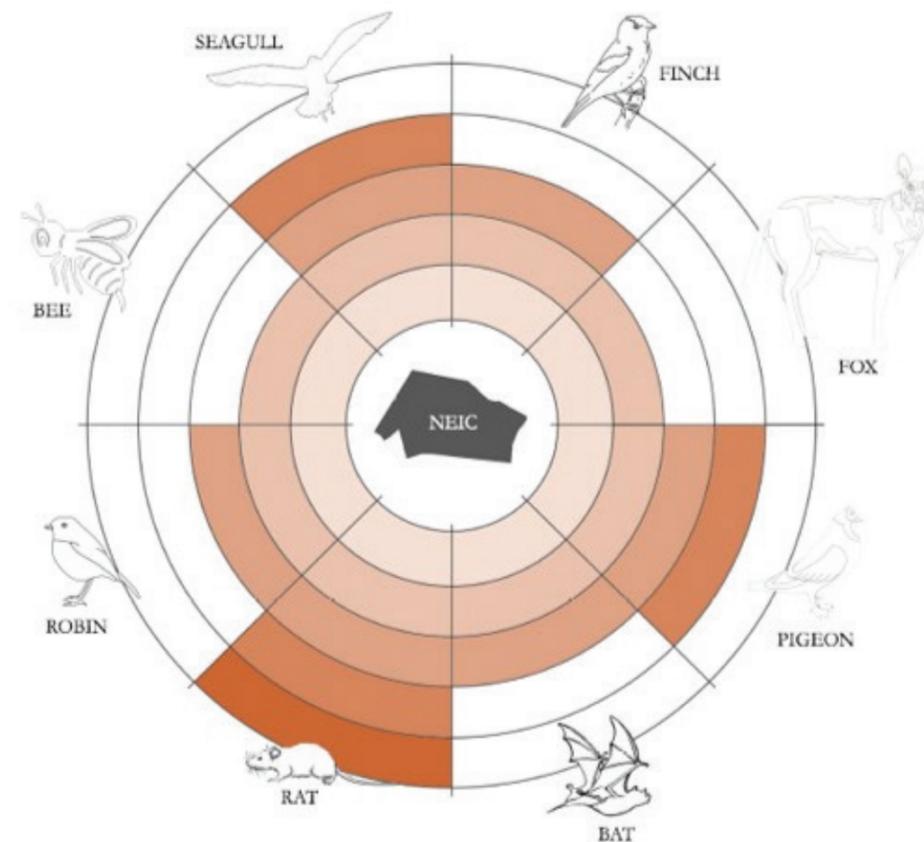
### Background Research

## David Boles

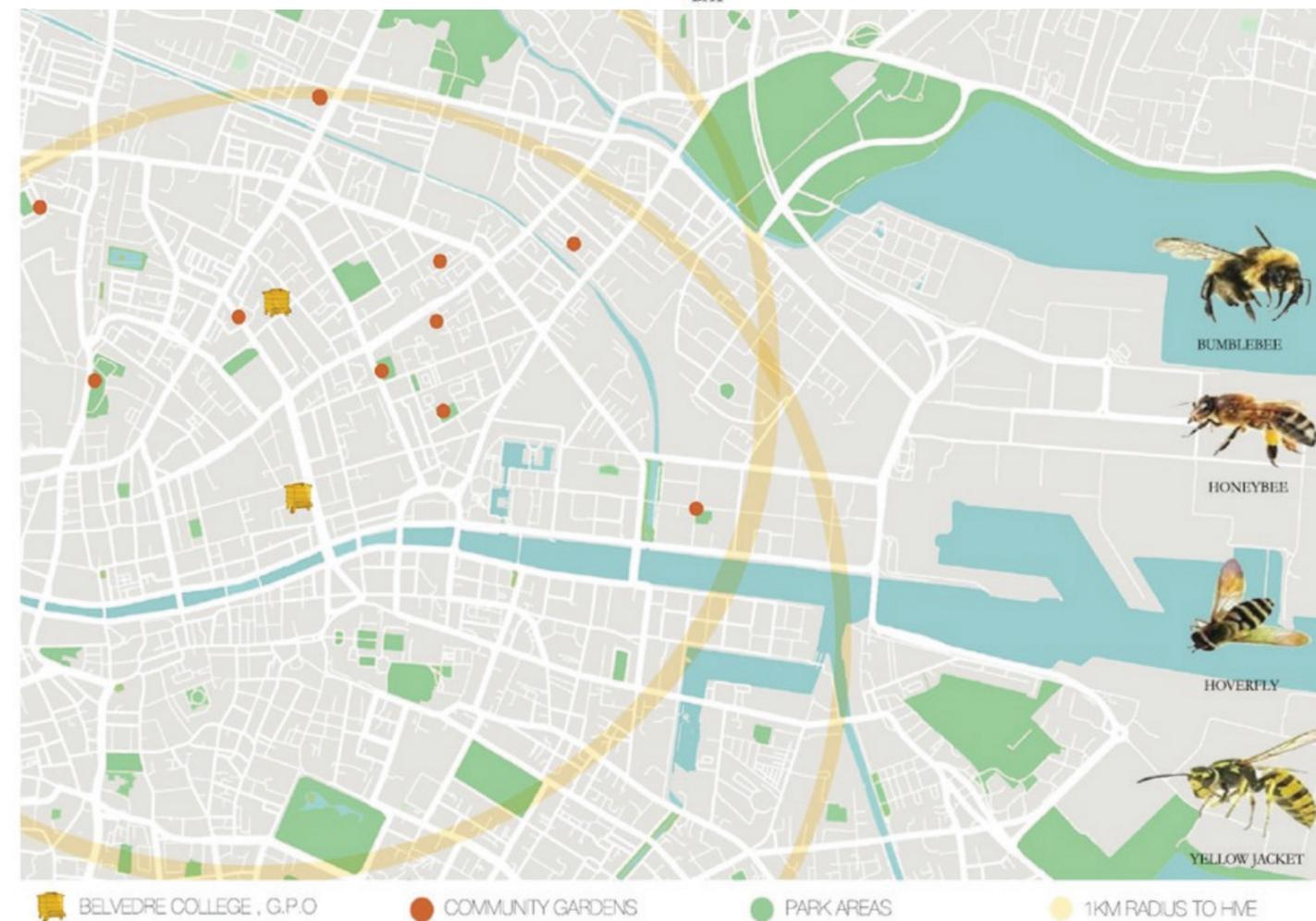
### Flora and Fauna Impact and Revitalization:

Our need for Fauna is constant and everywhere around us. Dublin city is making directions towards understanding the importance of such reactions. It has initiated projects like The Irish Pollinator Plan, The City Hives Plan, and city-wide community gardens. Hence by creating even more urban planting and greenery areas within the city nature prospers. Berlin is a city which has had great success with this type of planning. The city has a vast amount of greenery which comes alive during the summer. It is estimated to have around 450,000 trees lining its streets. The city's largest struggle is to constantly replace trees as they become damaged. (Welle (www.dw.com), n.d.). Berlin is an interesting city, as it takes the idea that every person within the city is entitled to six square meters of open space. Policies such as this have led to major public parks being developed throughout Berlin. Some of these public greens run alongside bodies of water, such as rivers, canals, and lakes.

**Top:**  
Species Density Map NEIC  
**Bottom:**  
Bee Species Map NEIC



Some of the better-known ones are Müggelsee and Wannsee. These are two jewels in a fast-expanding city. Berlin is truly a wild city, making moves towards creating more densified green spaces, that require less landscaping, but constantly help to create more welcoming and inviting environments to its inhabitants. Which in turn encourages the growth of new and old species to repopulate its nature. It has welcomed many creatures' furry and feathered alike. For example, a strong population of squirrels, foxes, rabbits, and even wild boars to name but a few now inhabit Berlin's landscape. This is truly amazing for a city of its size. (Welle (www.dw.com), n.d.)



# RE-ENERGISING THE ROYAL CANAL

## Objectives

### **\_Thesis Idea**

In my early research I found the NEIC communities to be in severe lack of green spaces. From this I concluded that the interactions experienced by humans with nature are limited within such an environment. Therefore within my thesis I hope to create an opportunity for people to integrate, socialise and experience nature in a safe way, where community can build and form around it. Future proofing my idea and grounding it to the communities of the NEIC.

### **\_The Site**

I would hope to find a location that has been neglected and forgotten about, a fringe area of the Royal Canal. The site, in order to meet future needs, must be well accessible by the cities existing infrastructure. The area would hopefully have strong footfall and an existing sense of community. I hope to build upon this existing sense of community and believe it will help enhance my project as it develops.

### **\_Brief**

The brief should benefit the community within the area. It should also enhance the nature surrounding the immediate and the extended site. The occupier of the project should be something that helps everyone within the community. It should also enhance and build upon the existing wildlife of the NEIC. The project should encourage people to lay roots in an area, building a positive surroundings for all age groups. The idea of sowing the seed, nurturing the growth and yielding the end products fruits. It is something that a community could model towards in the NEIC. If people are provided with the tools, they will take ownership and develop an area, enjoying the positive rewards which come afterward for all involved and beyond.

### **\_Construction**

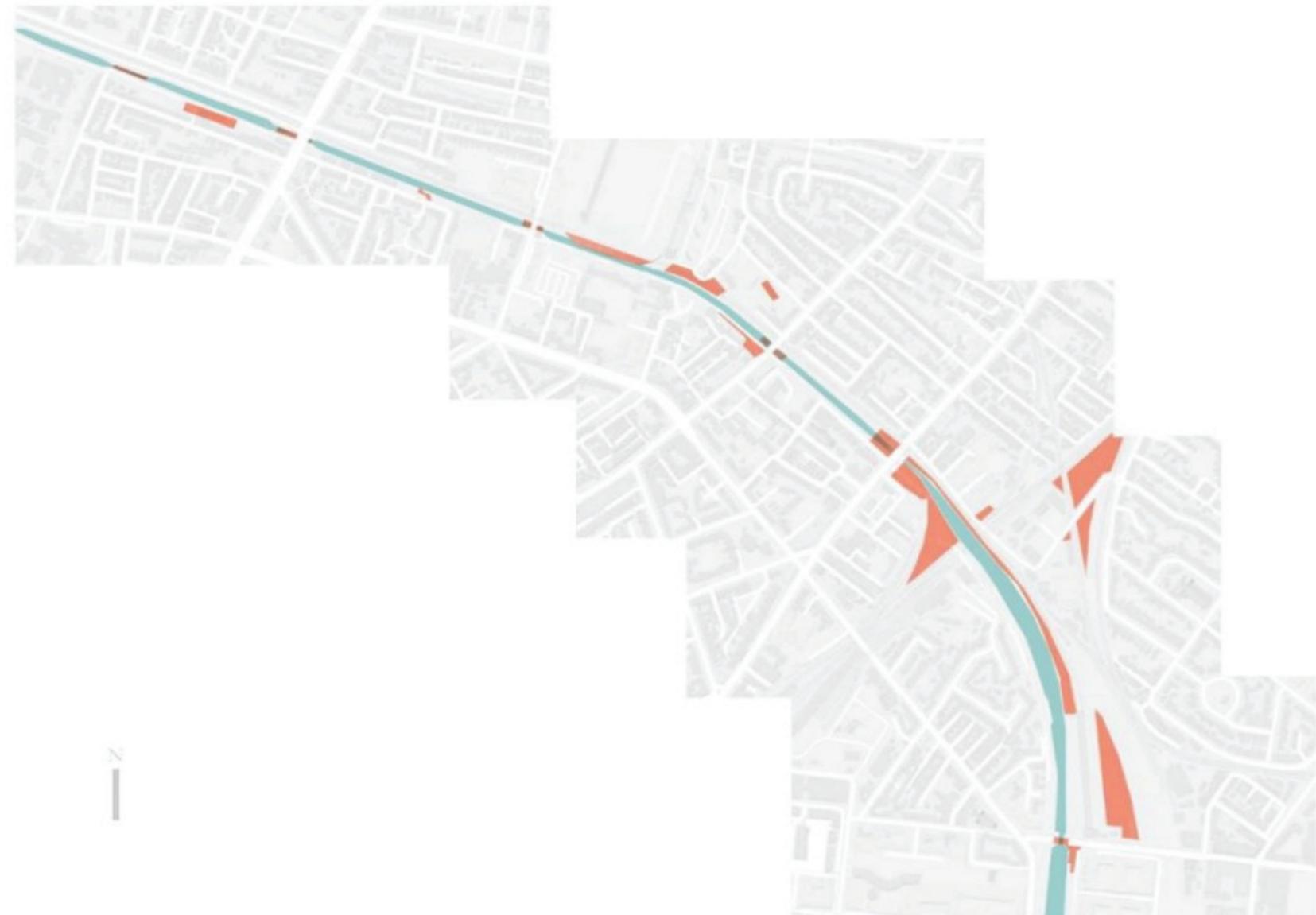
The construction materials should be found as locally as possible to try and minimise the embodied carbon created whilst in the construction phase of the project. It would also help to fund Irish owned and operated businesses. Sourcing timber from Glenfort Sawmill Ltd, concrete raw materials from Roadstone quarries, Acrylic Design & Fabrication Company Ltd for the polycarbonate and NRGi Bespoke Glazing Ltd for all of the glazing within the project. The building itself will use a simple construction method which can be completed by local skilled workers. Doing this will allow the building at a very early stage, grounding within the local. It will help to establish the people's pride of place in the earliest possible stages of the project.

## Semester II

### Objectives

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# RE-ENERGISING THE ROYAL CANAL



## Semester I

### Thesis Interest

David Boles

#### Thesis interest

My thesis idea was based around re-energising The Royal Canal through the reintroduction of nature in the form of small minor interventions around the city. It is tough to find a place to develop such ideals like this within Dublin city as it is already so densified. To combat this, I am suggesting we look beyond the fringes of the city, the neglected railway structures, the old canals, and river embankments, as areas within which, we can create little honey holes of nature, for people to interact and communicate within. The Royal Canal of Dublin's North is ripe for more of these interventions. The Canal is an old industrial network of Dublin's city, which is long past its value in serviceable years. It officially closed its locks in 2016 due to anti-social behaviors alongside its banks, leaving all of the old infrastructure to fall derelict. The city must use this as an opportunity to increase interest in the natural landscape, its public spaces and how the city's urban surfaces are constructed. I am proposing that we repurpose the disused Royal Canal through the Northeast Inner City to become an urban natural corridor. Its potential is immense due to its historical connections, its central location within the Northeast Inner City, its scenic moments and its close proximity to all amenities, not to mention its rich existing wildlife and eco-system. If we approach it correctly it is an amazing opportunity to create an architectural piece of infrastructure, where a large population of people may benefit and interact while enhancing, their social skills and daily lives. It can have a positive effect on so many outcomes regarding all living creatures and human beings. Creating a public space like this will take careful consideration towards what needs to be built and what needs to be unbuilt. What needs to be highlighted and enhanced through minor and major interventions. To do this as successfully as possible, we must look towards other projects with similar goals and achievements. Projects that have already proven how successful it can be by re-introducing nature to a community to help strengthen and bond its social ties.

#### Image:

*Possible Site Locations, Fringe Areas Along The Royal Canal.*

# Semester II

## Early Design Stages

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**Top:**  
*Map of Possible Activities*

**Bottom:**  
*Map of Fringe Areas for More Opportunity*

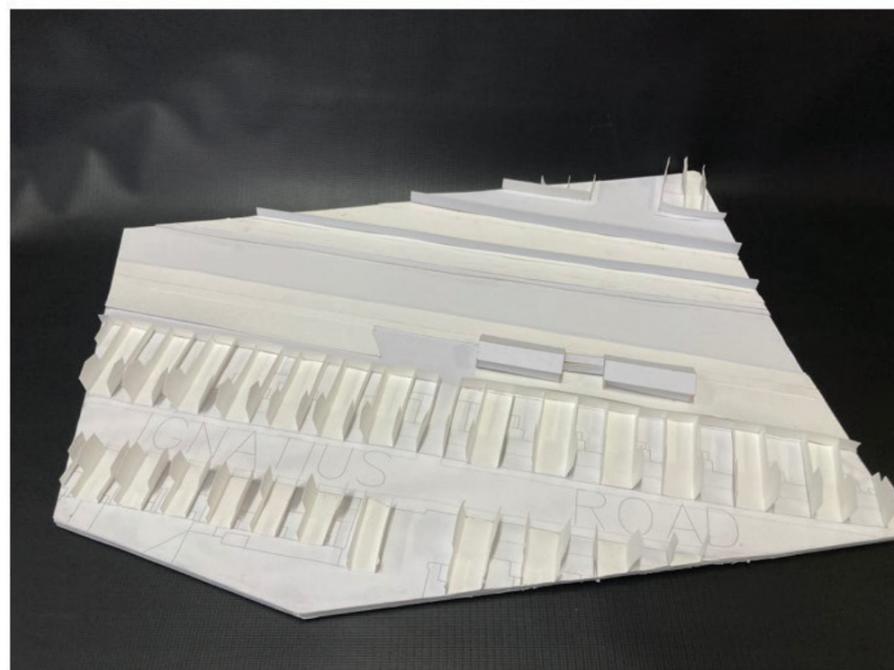
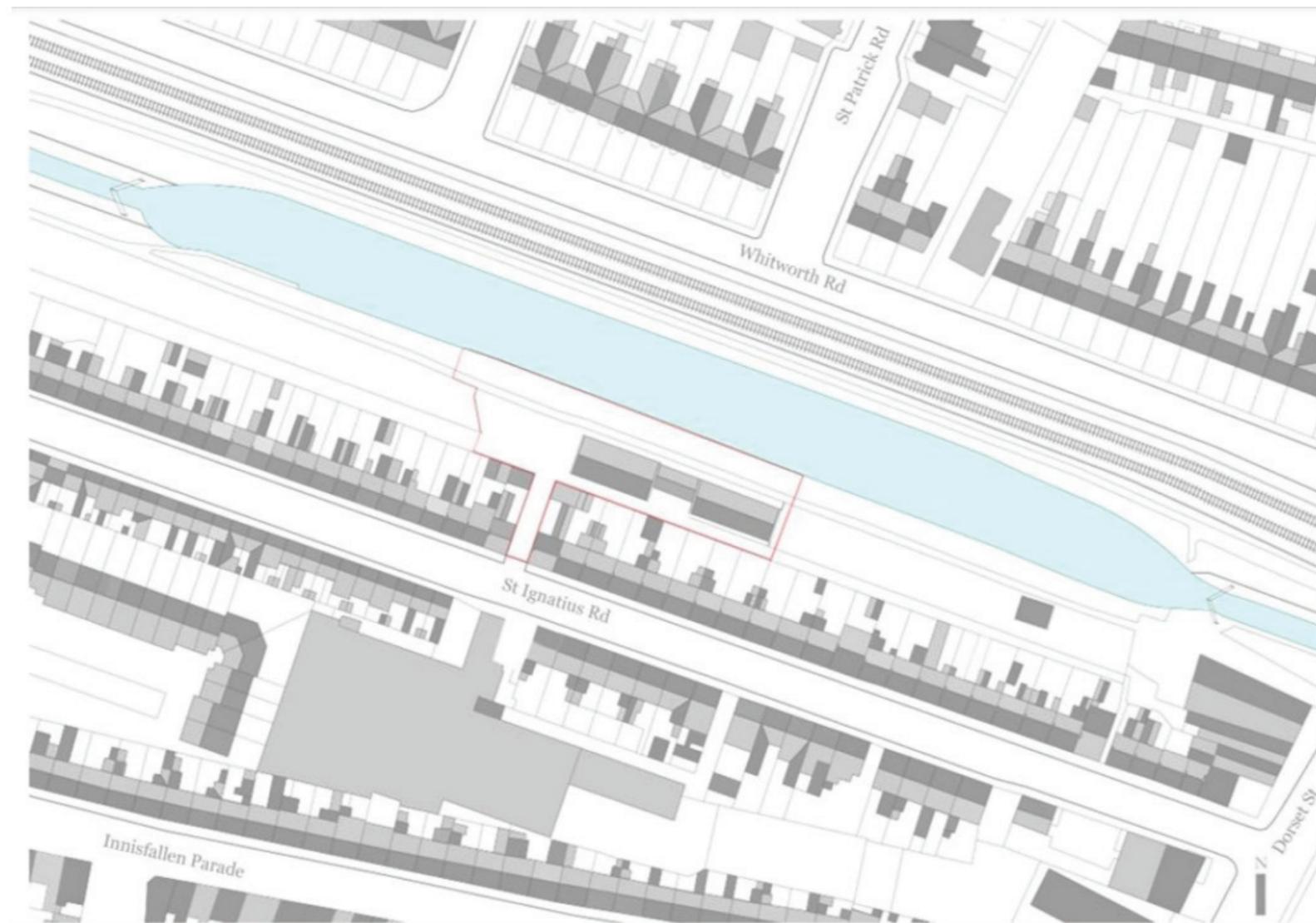
## Semester I

### Thesis Interest

## David Boles

### The Site

The site was one of the first things I decided upon. I thought it was a landmark, hub and pillar to the community with a diverse amount of existing uses like, shelter, band playing, picnic areas, commuter routes etc. I saw this as an opportunity to create an area within which the community can draw close to nature in a safe and comfortable way. The existing natural greening of the site embodies and embraces the nature missing from the existing North East Inner Cityscape.



### Top:

Current Site Map, site located between lock 2 and 3

### Bottom:

Site Model and Context

# Semester I Thesis Interest

## David Boles

### Establishing The Brief

The brief was the last piece of my thesis jigsaw. It was the area in which I struggled most. I was trying to find a solution driven by necessity to solve problems but also integrate a community on both the minor level and also the major level. I looked towards the Site I had chosen along the Royal Canal. My first iterated idea took the form of a greenhouse, based loosely around similar ideas to the Botanical Gardens Dublin in as to how a member of the public can inhabit interact within them. The next step began to integrate a marketplace which could house the Dublin food co-op and then sell the produce produced in the greenhouse. I began to develop these concepts further and started to look at what there requirements, functions and feasibilities would be. Upon further research into these I began to see an opportunity to integrate an educational model created by a non-profit organisation in which works alongside children who are endangered of falling out of the school system. To help them create a stable learning environment. They do this through more practical driven learning and counselling. They look towards teaching positive values instilled through fulfilling work.

**Top Left:**  
*Images of co-dependant businesses*

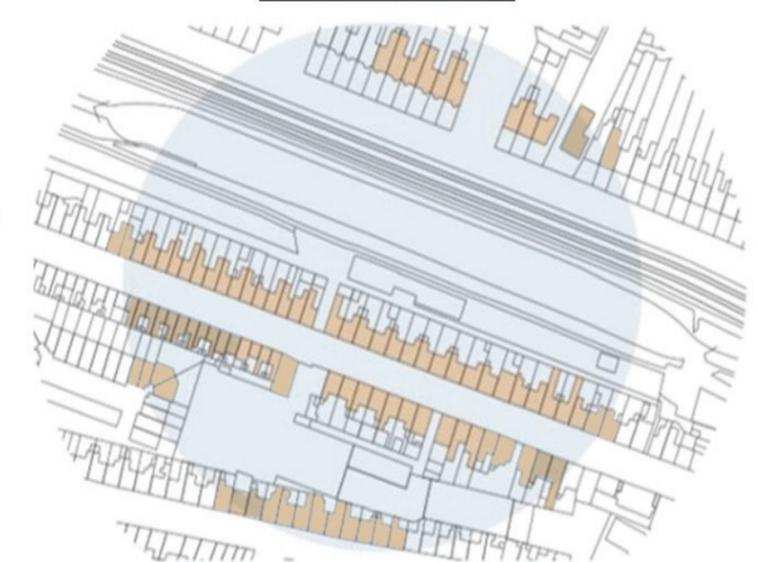
**Top Right:**  
*Food Co-Op Yield Stats.*

**Bottom:**  
*How a Jamies Farm Works*



### Greenhouse :

- 3-4 plants per squared metre
- Greenhouse 1 size : 252 m2
- Greenhouse 2 size : 216 m2
- Greenhouse average yield in vegetable greenhouse annually: 105 kilograms per metre squared meter annually
- Greenhouse 1 annual yield approx: 26,460 kg
- Greenhouse 2 annual yield approx: 22,680kg
- Average Household consumption: 850kg approx per annum
- Total households supplied entirely: 57.8 households supplied



## Jamie's Farm



# RE-ENERGISING THE ROYAL CANAL

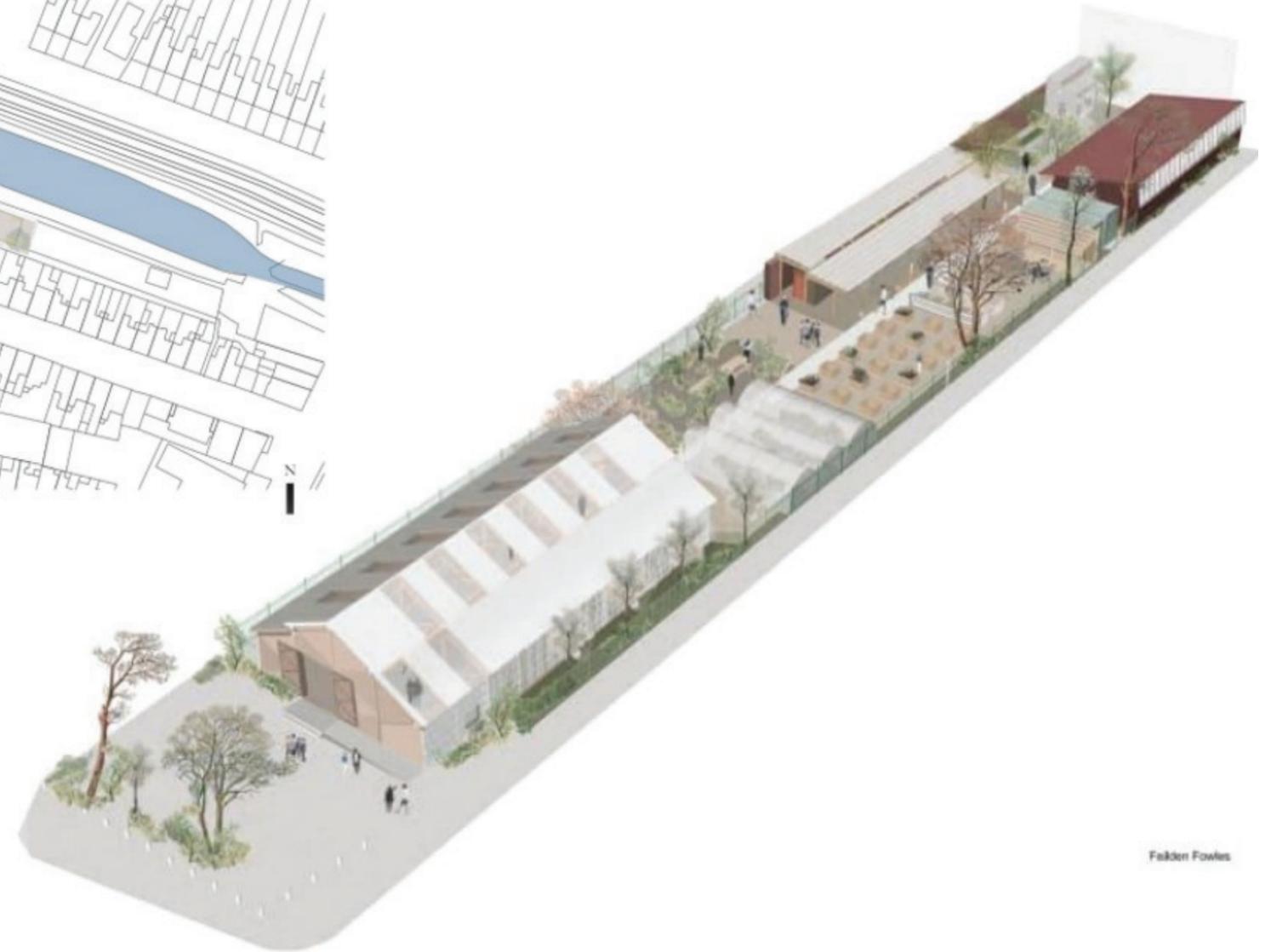
## Semester I

President

David Boles



Waterloo City Farm Feilden Fowles



## The Farm

Waterloo City Farm is London's most central urban farm. It was founded in 2014 on a formerly overgrown and neglected plot of land, a fringe area, south of Westminster Bridge. Since then the site has been transformed into a collaborative home for a host of organisations with a shared focus on education: architects Feilden Fowles and the charities Jamie's Farm and Oasis Waterloo. The site hosts visits by local school groups, community activities and external events. The site includes a design studio, animal pens, a classroom, planting, central yard and a barn. The main barn structure uses the typology of agricultural architecture and mixes it with timber components to create a delightful building that can be used in multiple ways. Versatile in use, all the structures are designed to be temporary and demountable. Therefore all fixings are mechanical. This means the collective cluster on the site can potentially move to another location in the future.

**Top:**  
*Waterloo City Farm Floor Plan In NEIC Site*

**Bottom:**  
*Model Of Waterloo City Farm*

## Semester I

### Reflection 4

David Boles

#### Reflection Reflection 1: Stage1

At this stage I continued my research into the Royal Canal and its rejuvenation. I did this through drawing upon the existing communities whilst also creating new communities. I centralised this around The Dublin Food Co-op reinforcing it with strong connections towards the surrounding nature within its greenhouse and close relationship to the Royal Canal . The Royal Canal as a whole has a large amount of fringe areas. These areas form the basis for my projects site and placement. I hope to achieve a series of minor and major interactions at this location. I choses to further develop my idea over the Christmas period by looking towards some of the more minor interactions with nature. I began to look at the animal housing included in the Jamie's Farm School and Greenhouses City Farm element of my project. I also started to masterplan for the linear arrangement on my site, along with making conscious decisions about the publics movement through the site.

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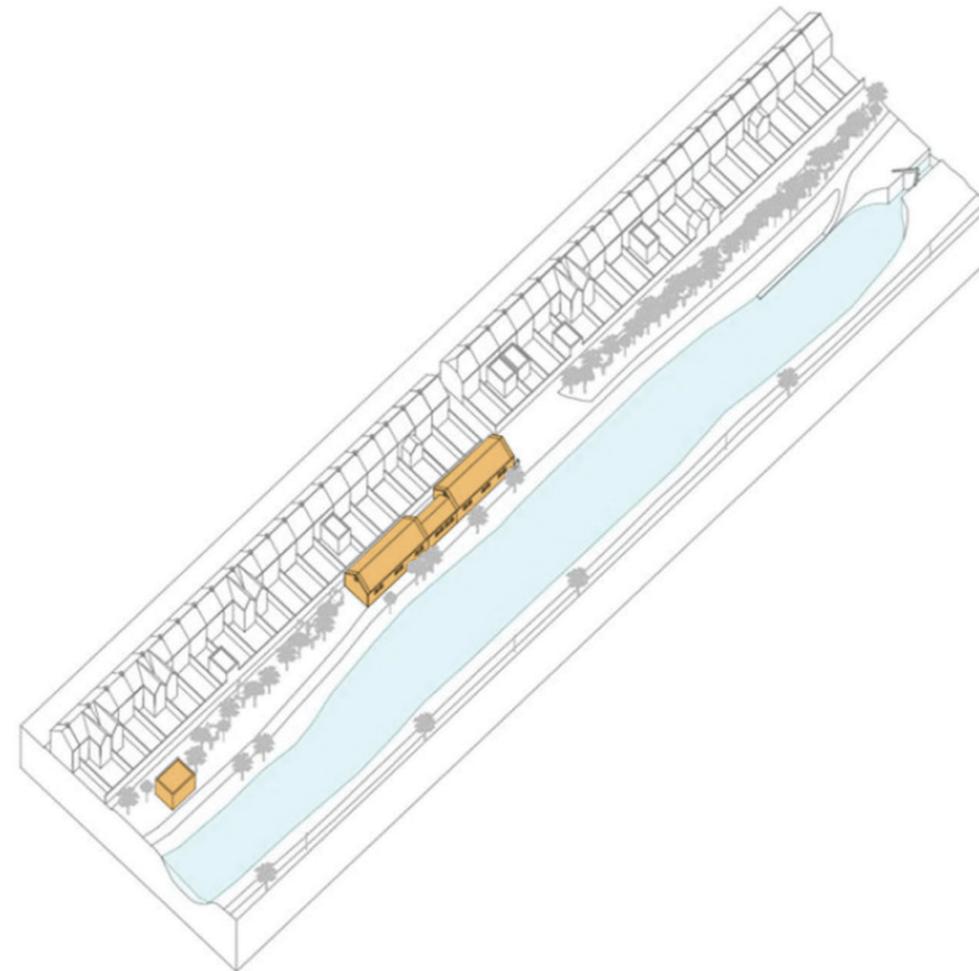
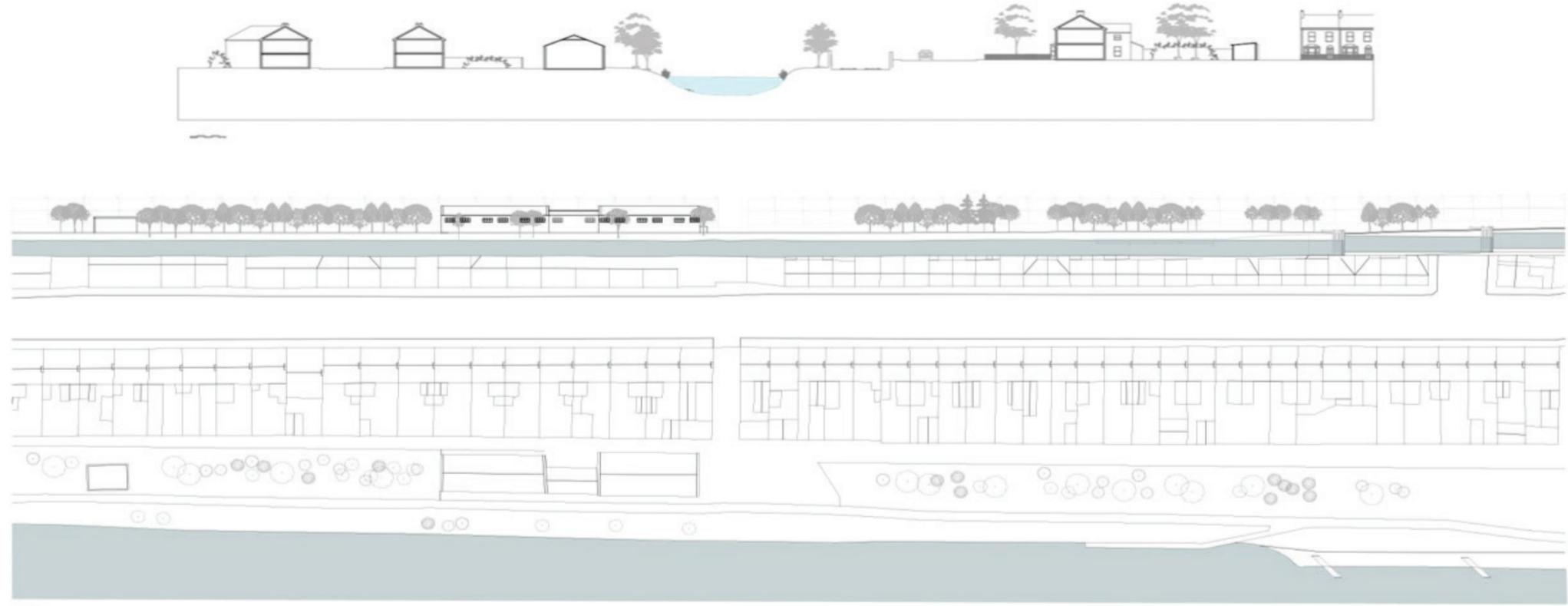
## Semester II

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## Semester II

### The Site

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**Top:**

*Current Site Section*

**Middle:**

*Site Elevation vs. Site Plan*

**Bottom:**

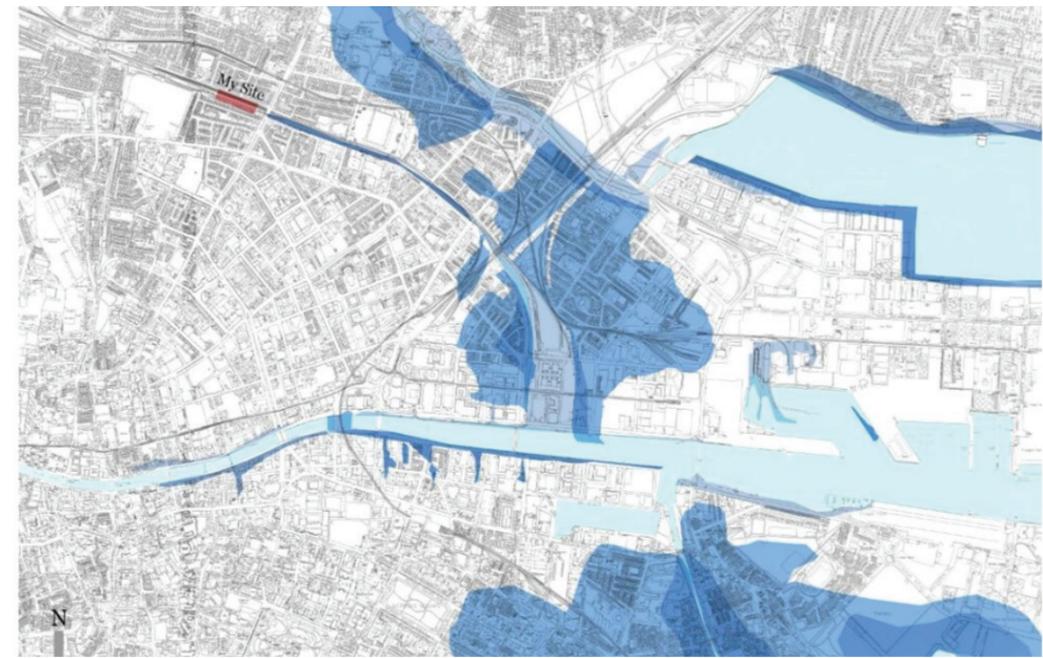
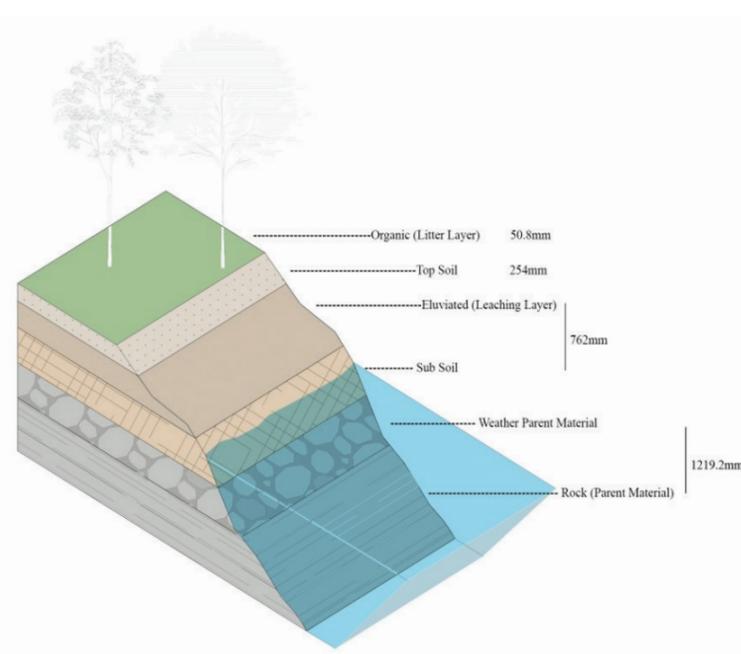
*Isometric View of the Current Site,  
Existing Buildings Orange.*

# Semester II

## The Site

### David Boles

My research of the site and area began with firstly looking at what is already there. Highlighting what might create or become an obstacle for me whilst I work the to parameters of the site to form my design and also make decisive design decisions which will define my building and the interactions which are experienced and created from within. The research started with me looking towards flood maps, soil make ups, various routes through the site, materiality and photos of the current site conditions.



**Top Left:** Soil Makeup Typology On Current Site  
**Top Right:** Flood Map Of Site And NEIC.  
**Middle:** Collage Of Current Site From East.  
**Bottom:** Current Site Images.

## Semester II

### The Site

David Boles



**Top :**  
Site Traffic And Route Map.

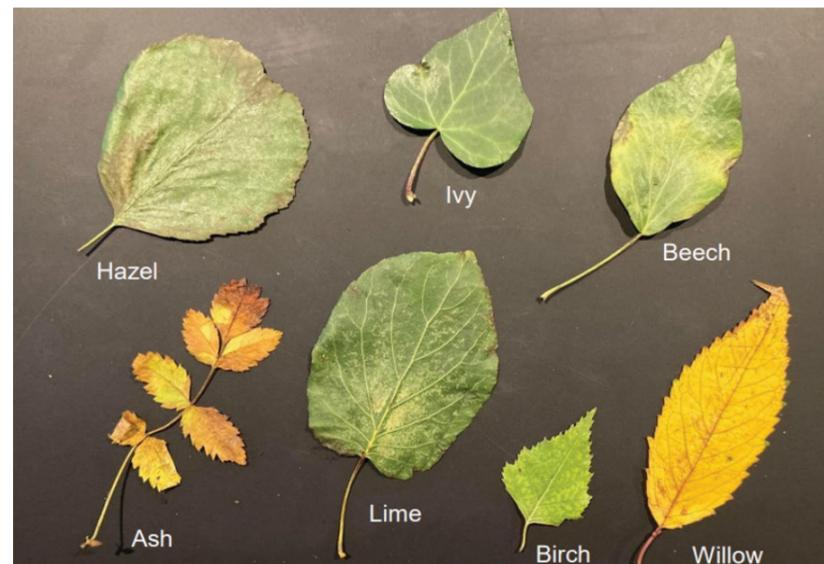
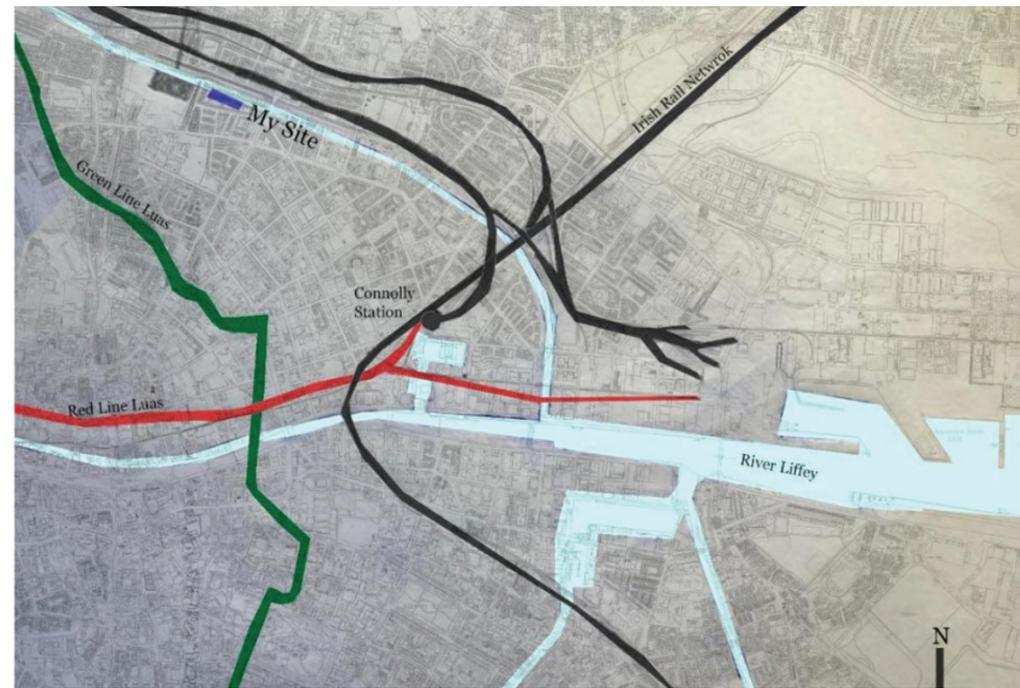
**Middle:**  
Material Section Of Site .

**Bottom:**  
Wind Direction And Sun Calc Of  
Current Site.

# Semester II

## The Site

David Boles



**Top Left:**  
*Public Transport Situator Map to Site.*  
**Middle:**  
*Current Trees Plan*  
**Bottom:**  
*Types of Trees on Site.*

## Semester II

### Reflection 2

David Boles

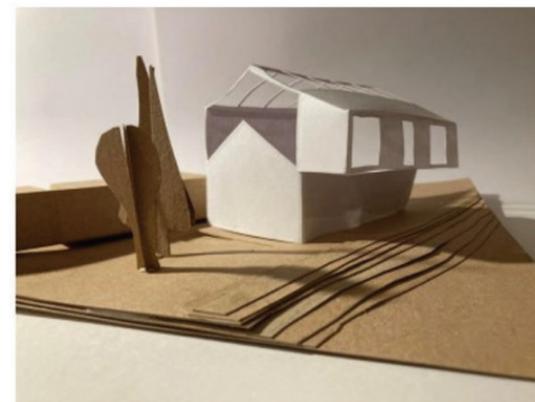
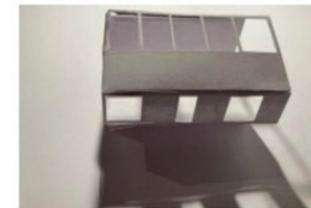
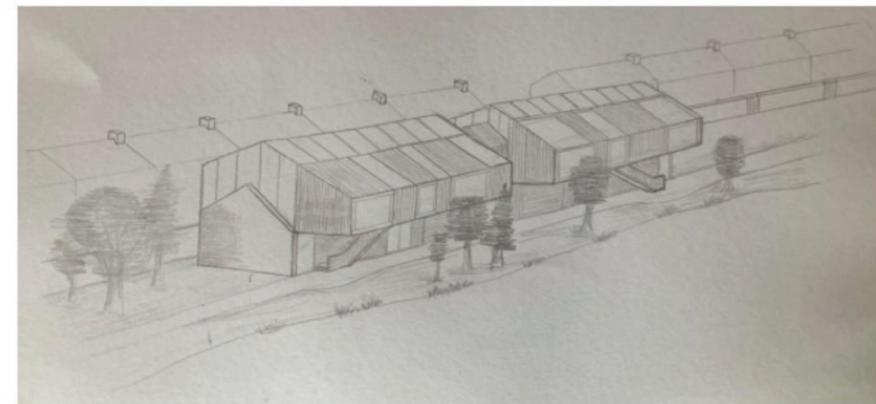
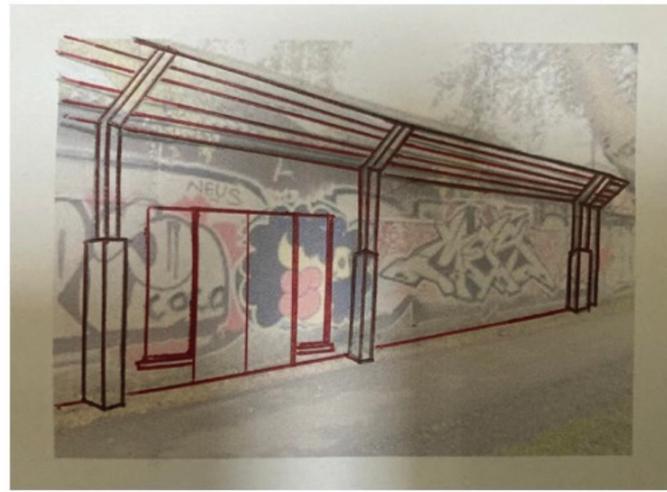
#### Reflection Stage 2

My design is developing along, I have now made the conscious decision to remove the existing buildings from within the site which I have found to give myself more freedom of design. I found the review really beneficial in the sense it was very clear for myself on what I needed to improve upon in the form of presentation, relying less on words and more on imagery for moving forward. Working through models helped me make very conscious and decisive design strategic moves. I found it to be a more useful tool for myself. However when presenting in the online format they tend to lose their value compared to an in person presentation. Moving forward I plan to show more of the programme development through imagery and infographics leading to easier understanding to an outside onlooker. The variety of scales and importance of the canal in section will help me to further both my design and understanding of the area and the site.

# Semester II

## Early Design Stages

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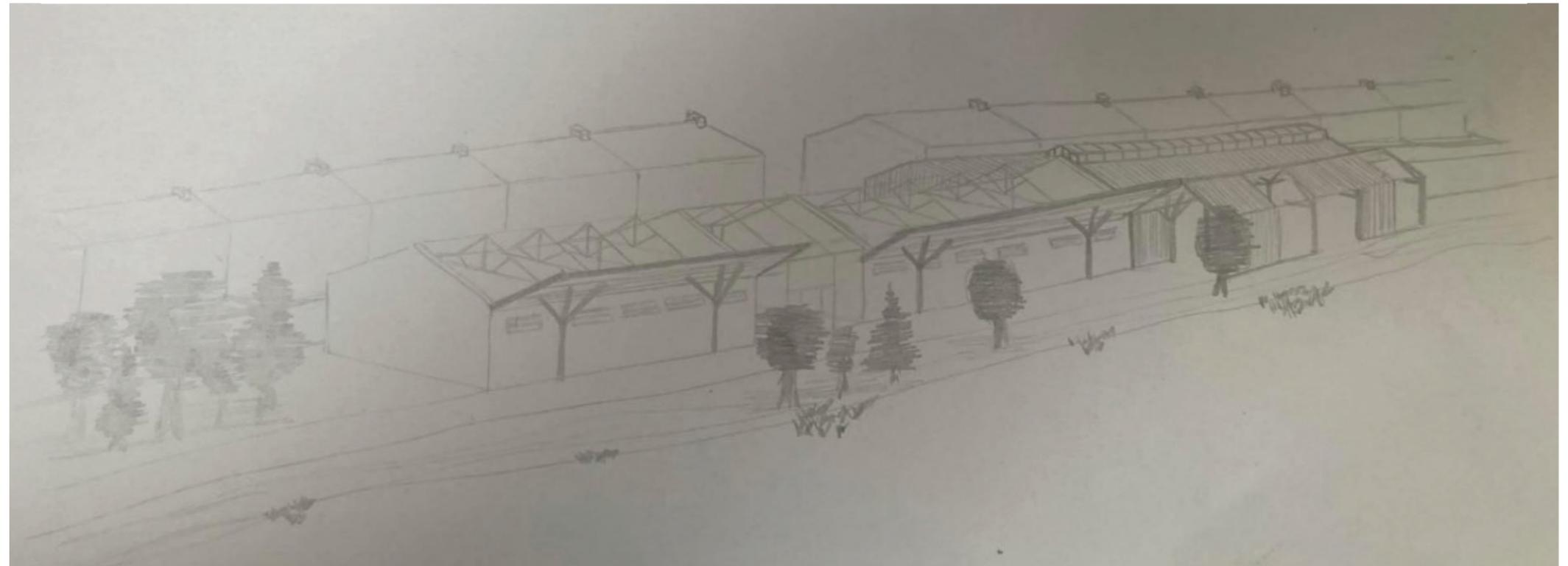
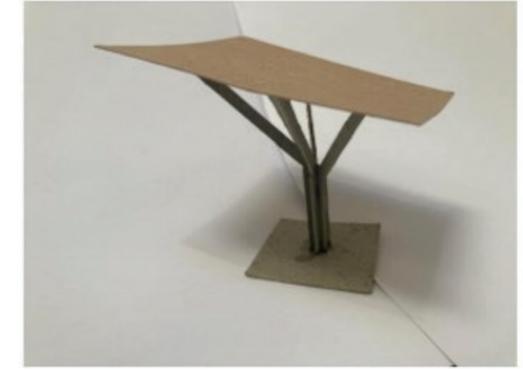
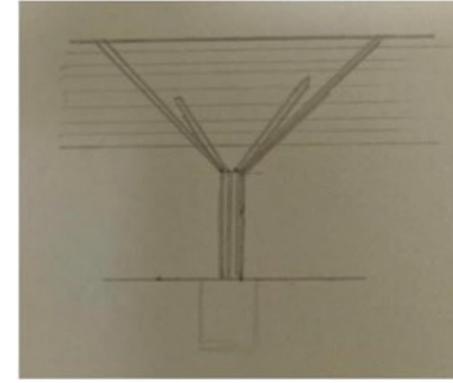
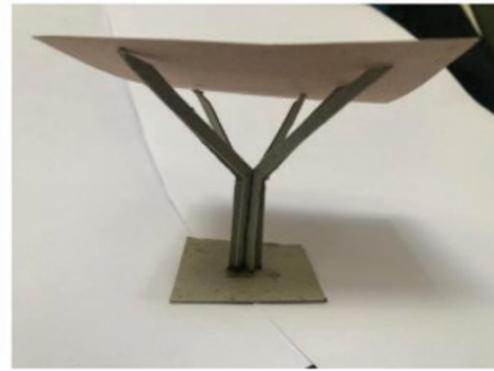
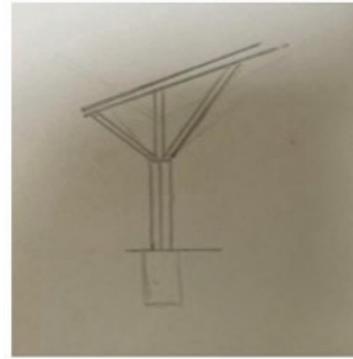


**Top:**  
*Early Sketch Image Overlay Ideas*  
**Bottom:**  
*Early Sketch Ideas and Concept Models.*

# Semester II

## Early Design Stages

David Boles



**Top:**  
*Investigation into a Possible Structure for Markespace*

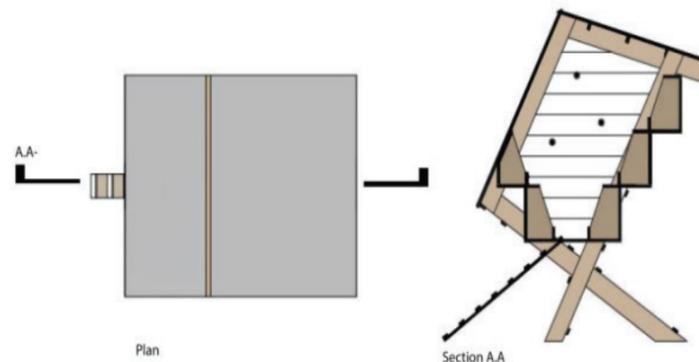
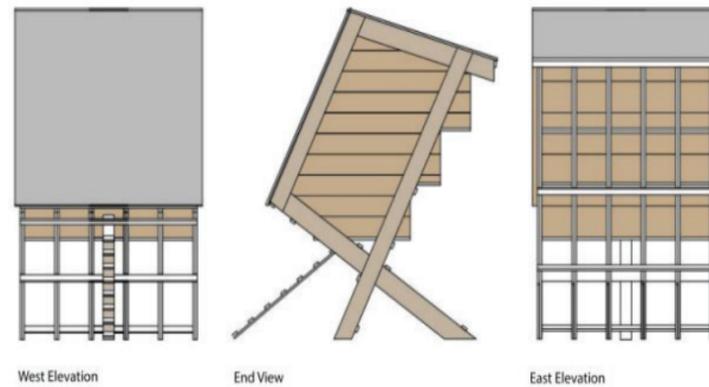
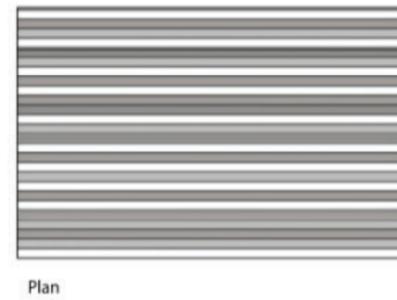
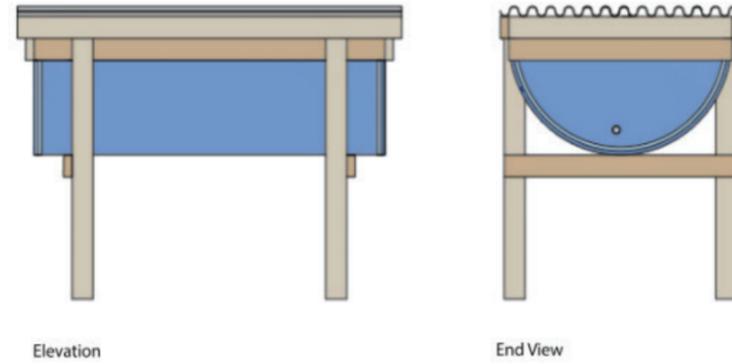
**Bottom:**  
*Demonstration of Struture onto Site.*

# Semester II

## Early Design Stages

David Boles

In the earlier design stage. I began to produce elements, after the Christmas period when I began to bring my project in at a much closer scale, I began looking at the possibility of the Jamies Farm and food Co-op way of housing animals in the form of modular self-built shelters. As the project developed I moved away from this idea of a general city farm to a more specific city farm. One that would yield more renewable resources like vegetable growing where people can benefit from the freshness and take advantage of it being on their literal doorstep. The farm to fork idea.

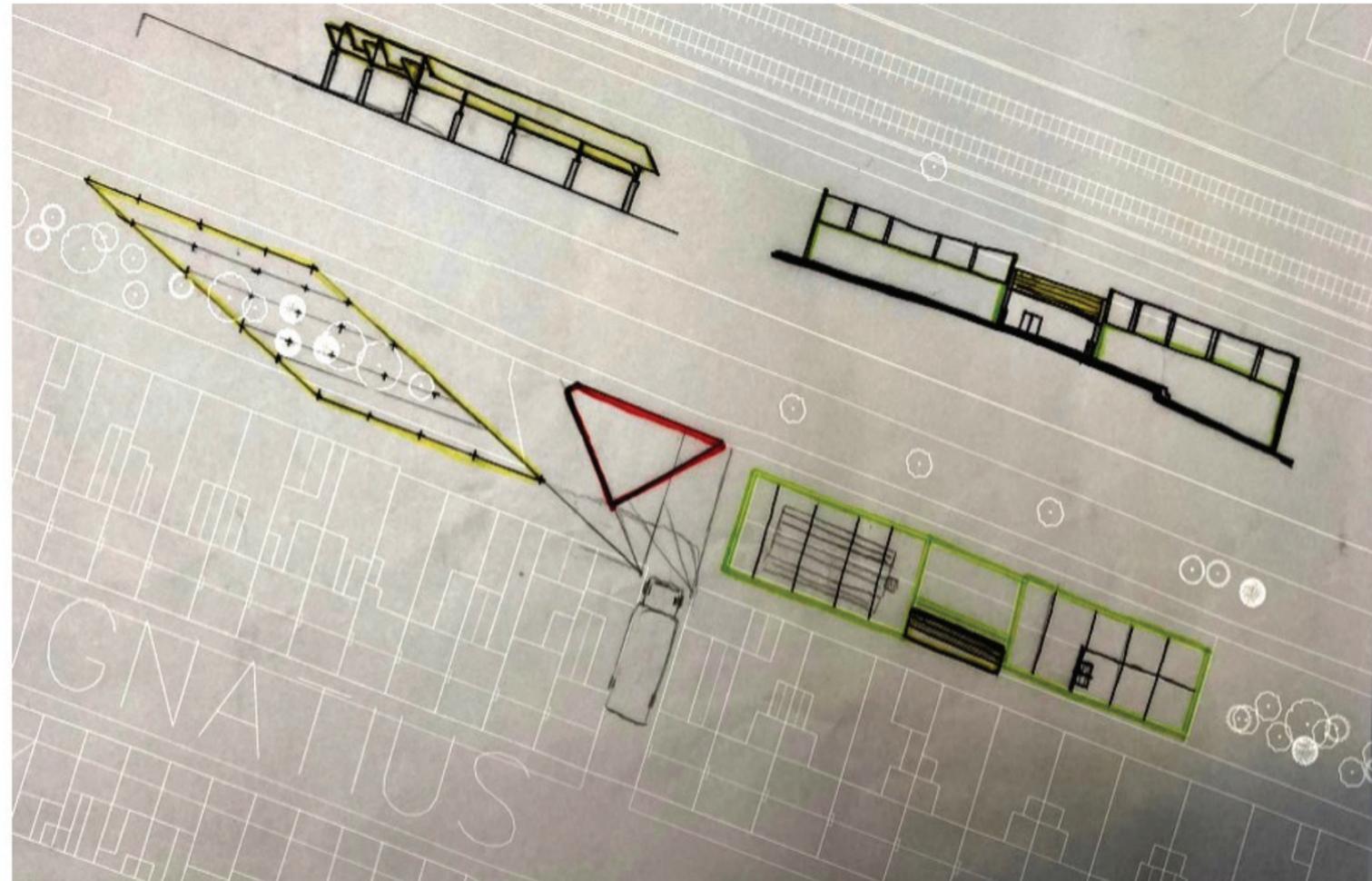
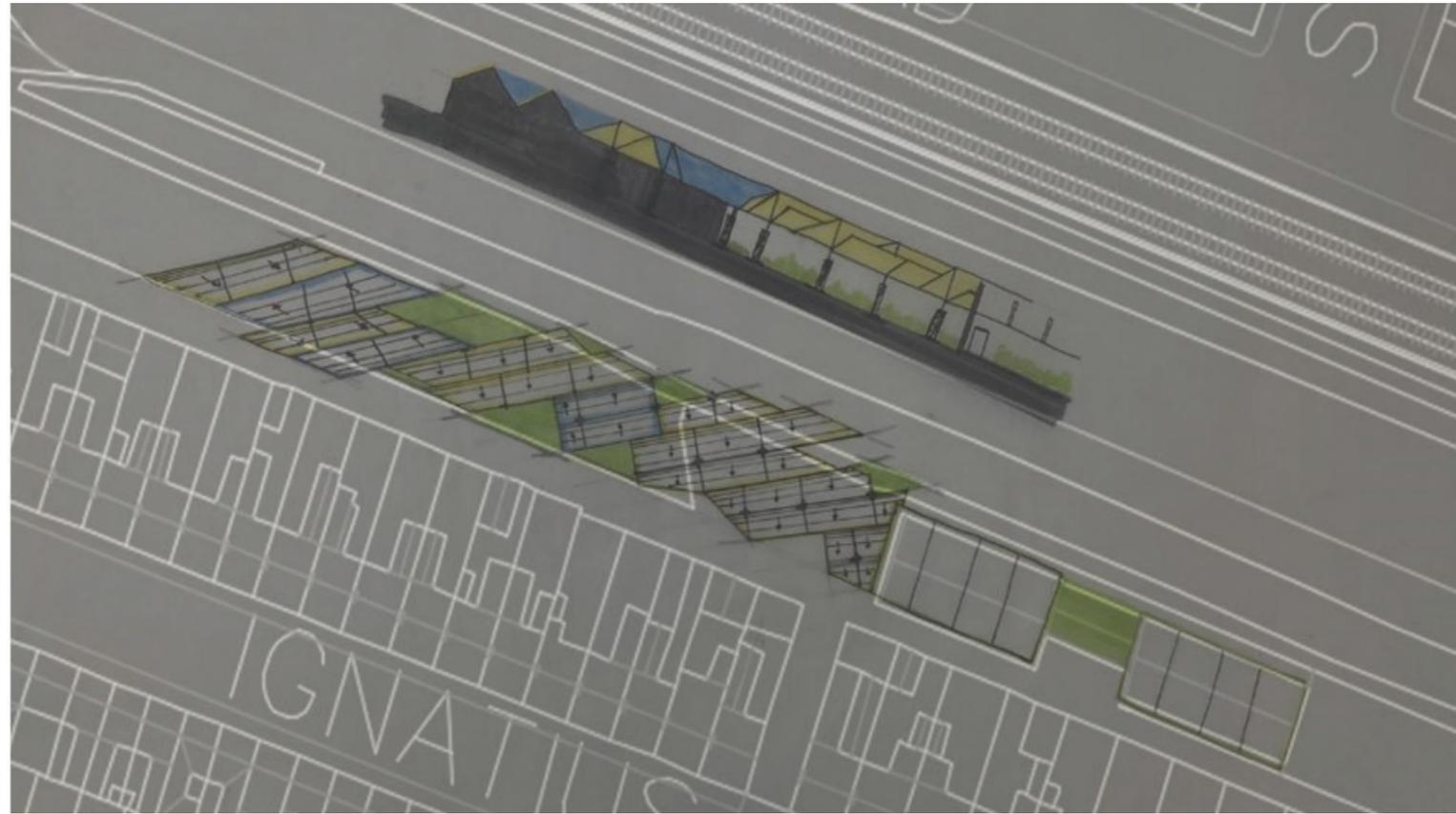


- Top Left:**  
*Bee-Hive*
- Top Right:**  
*Goat and Sheep Shelter*
- Bottom Left:**  
*Chicken Hut*
- Bottom Right:**  
*Pigs Shelter*

## Semester II

### Early Design Stages

David Boles

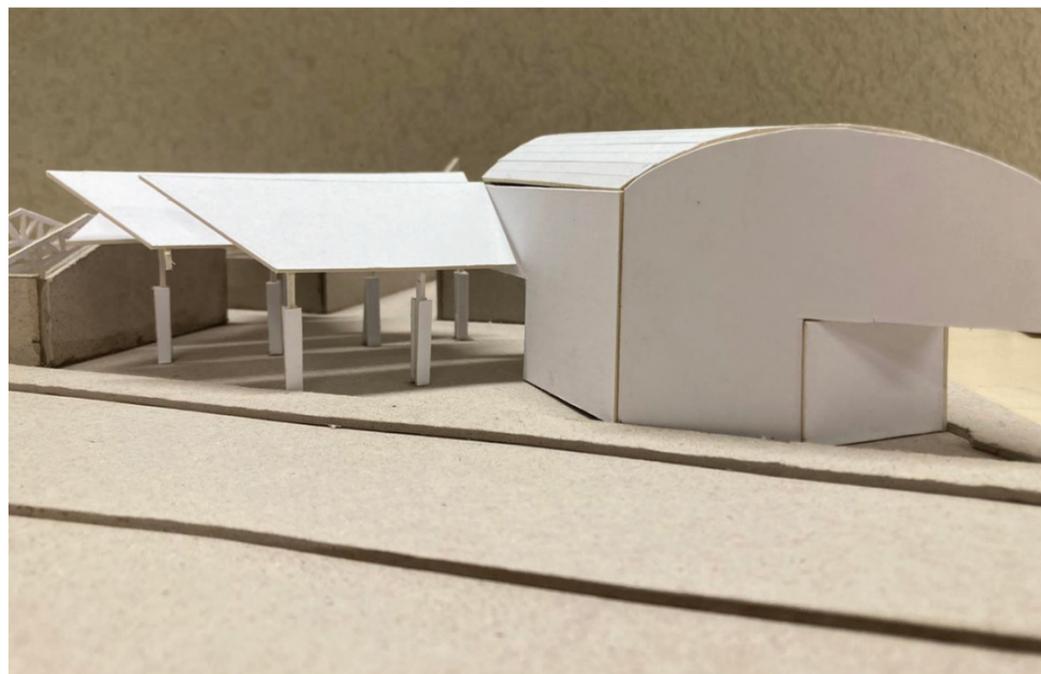
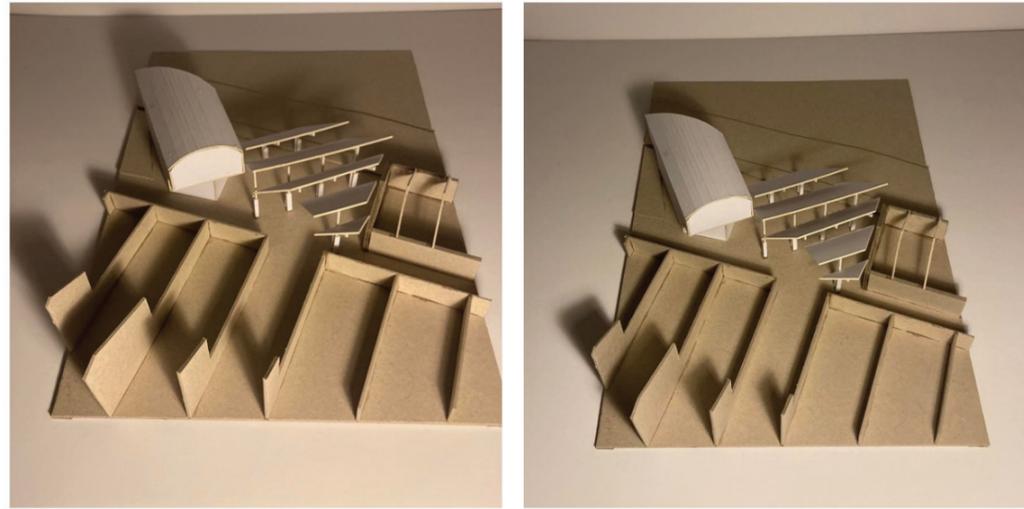


**Top:**  
*Investigation Into a 6x3 Offset Grid Idea*  
**Bottom:**  
*Looking to Layout Around a Central Junction of Ignatius Road.*

## Semester II

### Early Design Stages

David Boles



**Top:**

*Investigation Into Marketspace Model  
Keeping Existing Building Retro fitted  
as a Greenhouse*

**Middle:**

*St Ignatius Street View In.*

**Bottom:**

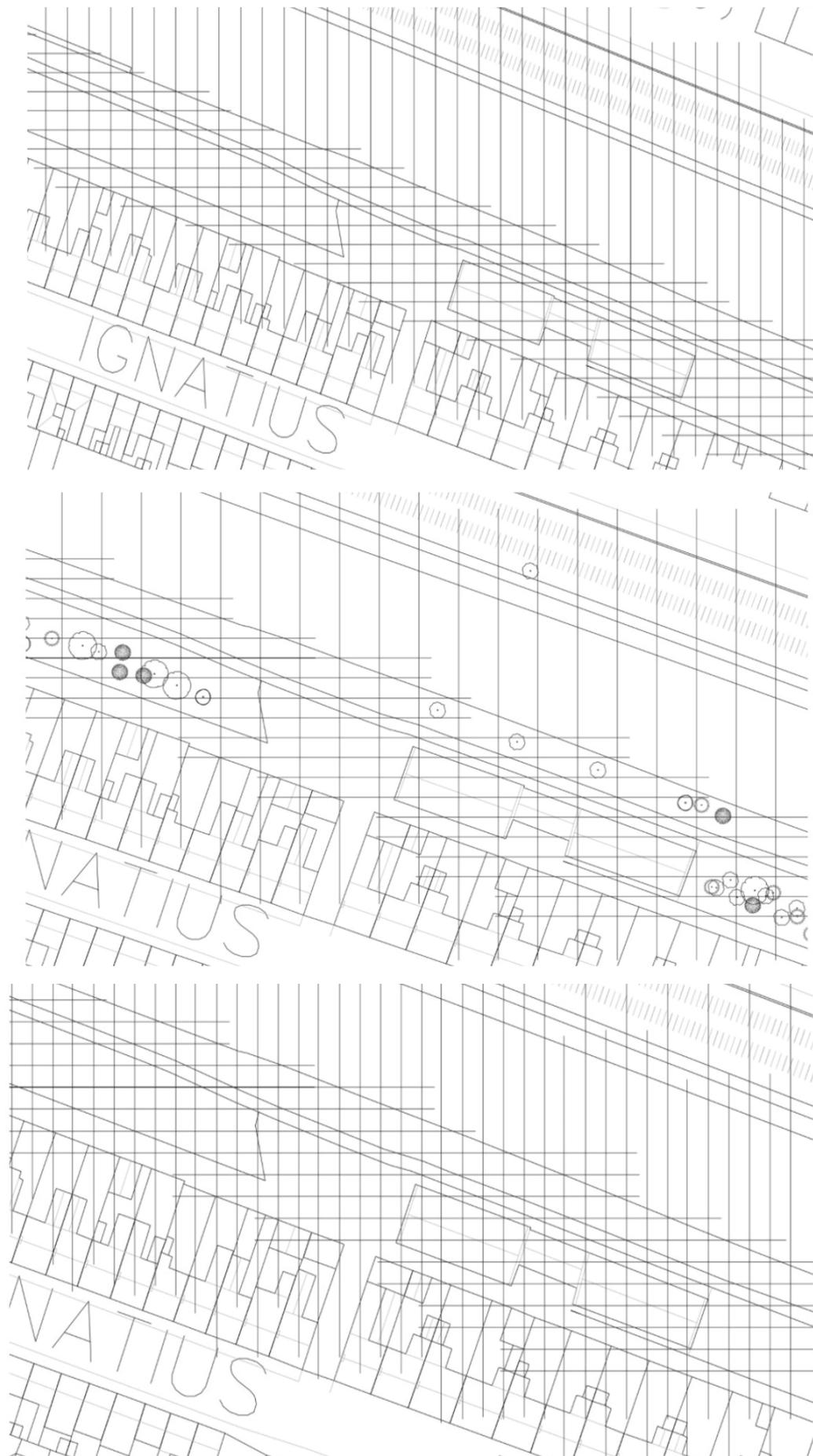
*Canal View Back Toward Jamie's Farm  
Element*

## Semester II

### Early Design Stages

David Boles

Once the decision to follow a grid guided design was made it began to rapidly define the project and the site. It gave me parameters to design within. I ended up settling on a 4mx4m grid.



**Top**  
4x4 Grid Layout.

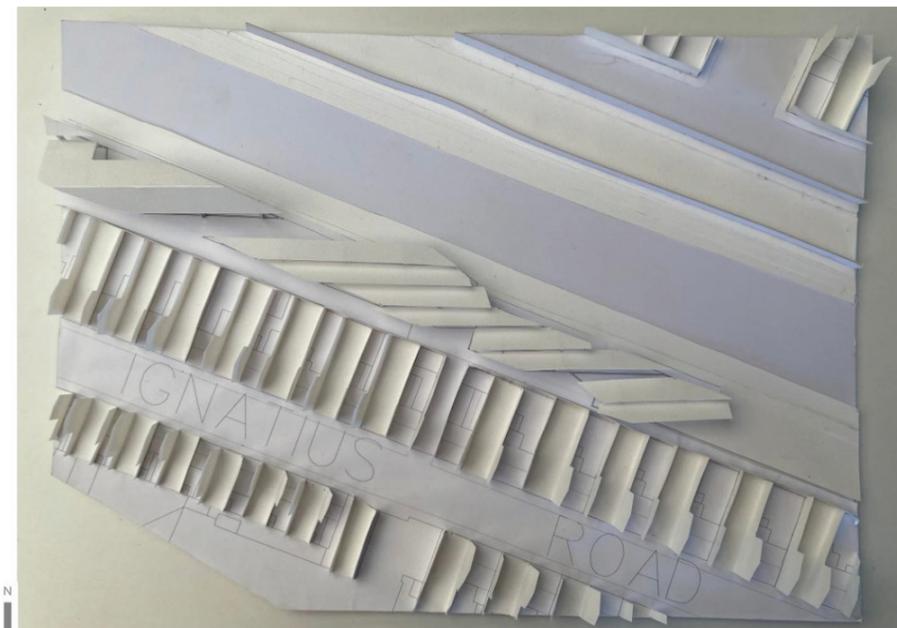
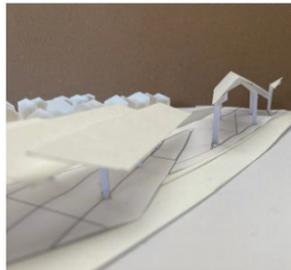
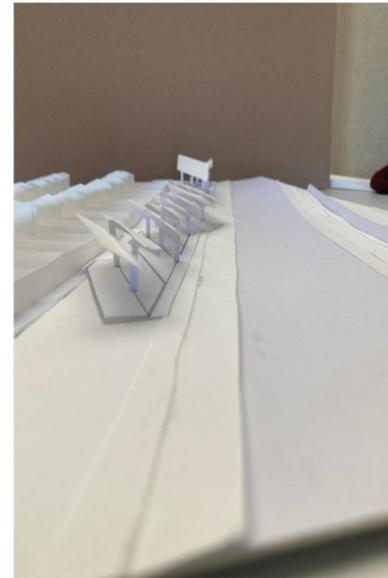
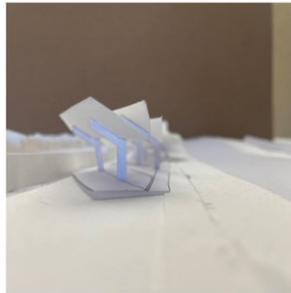
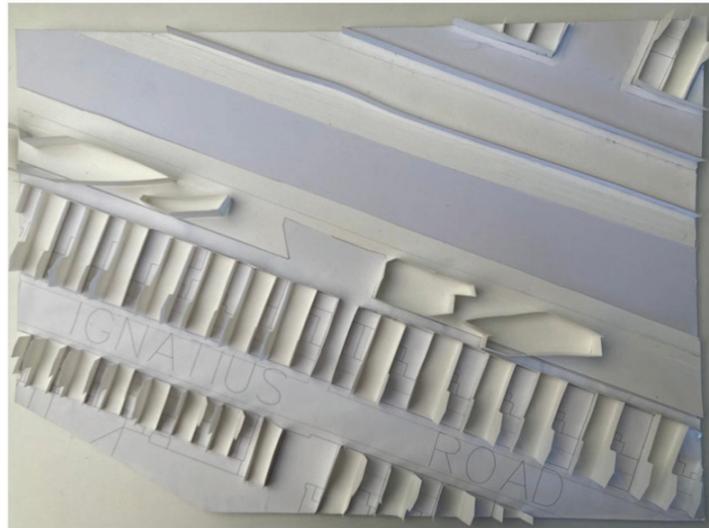
**Middle:**  
3x6 Grid Layout

**Bottom:**  
3x3 Grid Layout

## Semester II

### Early Design Stages

David Boles



**Top:**  
Model Looking Towards Inbetween  
Spaces of Buildings on Site

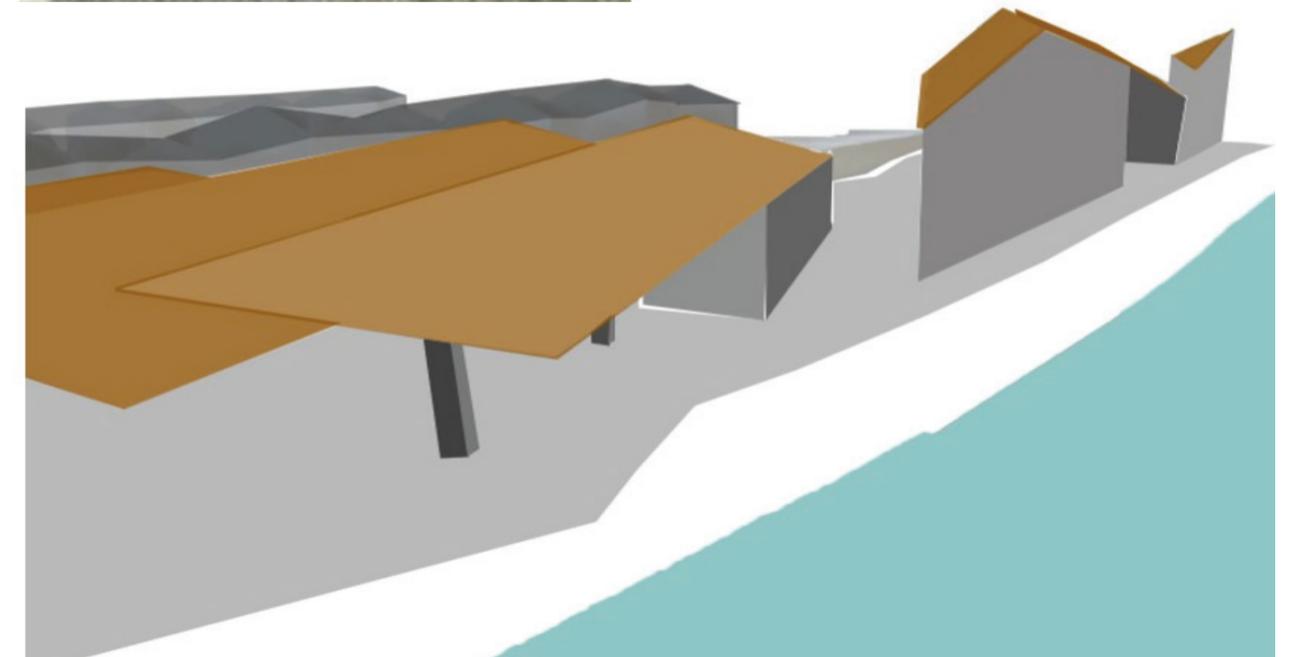
**Middle:**  
Buildings Structure Sitting In Context

**Bottom:**  
Structure From Aerial View

## Semester II

### My First Design

David Boles



**Top:**  
*Experience Underneath Roof Canopy of  
Market Space*

**Middle:**  
*St Ignatius Lanes View In*

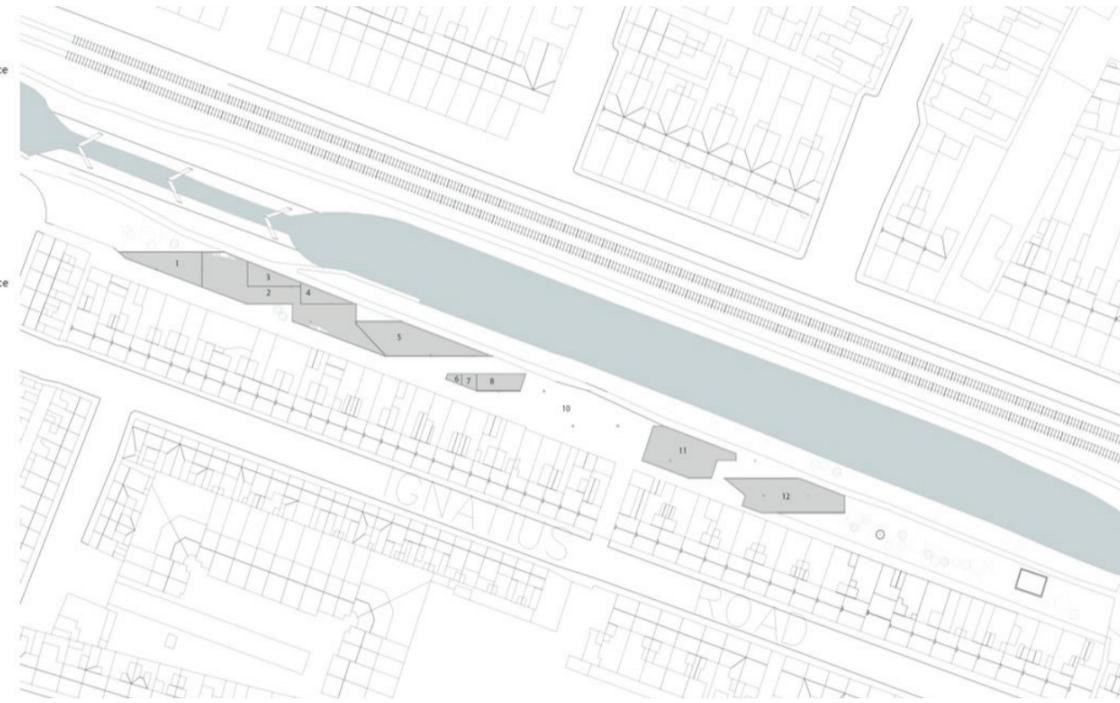
**Bottom:**  
*Inbetween Spaces*

# Semester II

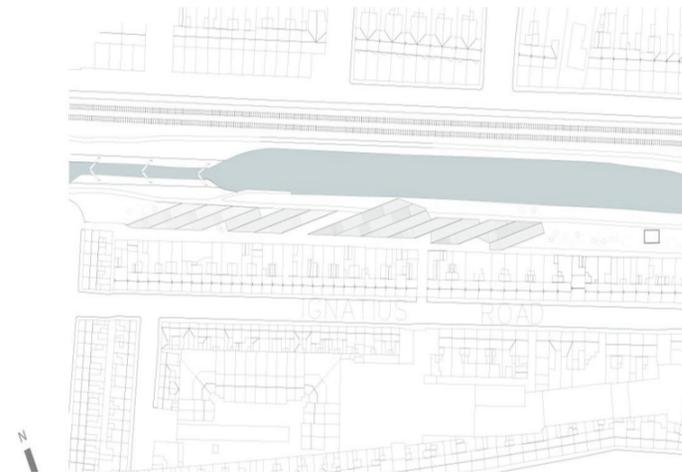
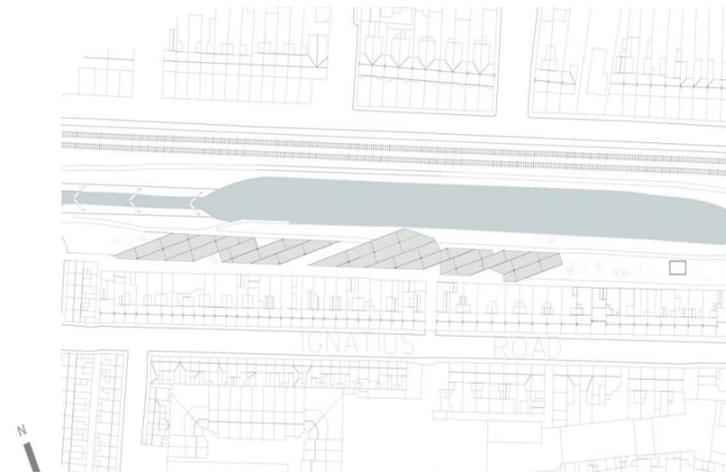
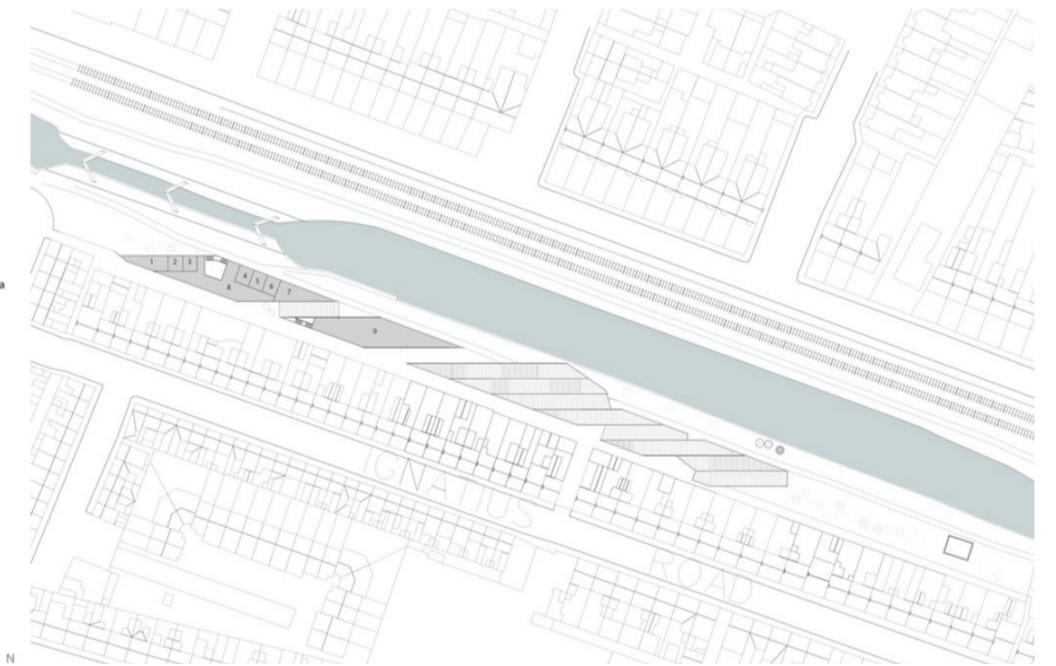
## My First Design

David Boles

- 1. Art Studio
- 2. Circulation/Social Space
- 3. Music Room
- 4. Studio Space
- 5. Workshop
- 6. WC Female
- 7. WC Male
- 8. Kitchen
- 9. Loading Laneway
- 10. Outdoor Market Space
- 11. Greenhouse2
- 12. Greenhouse 1



- 1. Speech Therapy
- 2. Counselling 1
- 3. Counselling 2
- 4. Meeting Room
- 5. Classroom Space
- 6. Career Guidance
- 7. Kitchen Area
- 8. Circulation Space
- 9. Large Function Area

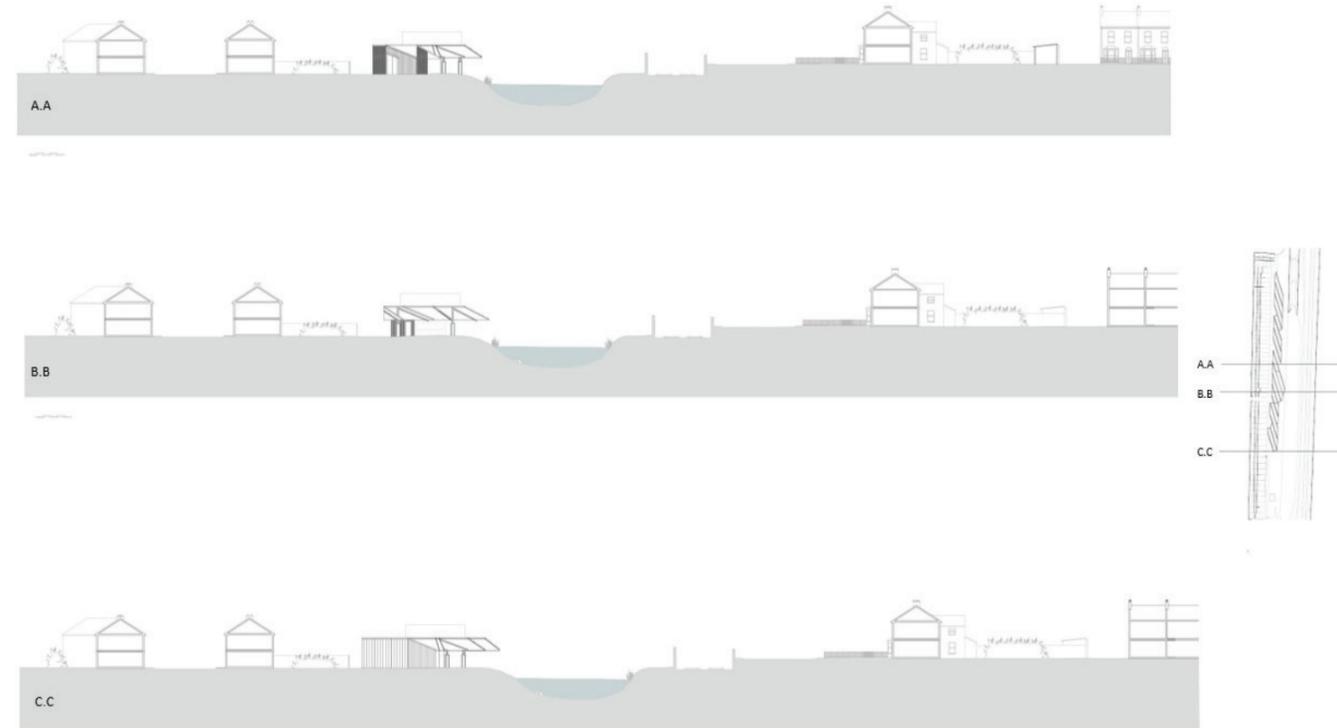


**Top:**  
Ground Floor Plan  
**Middle:**  
First Floor Plan  
**Bottom Left:**  
Structure Plan  
**Bottom Right:**  
Roof Plan

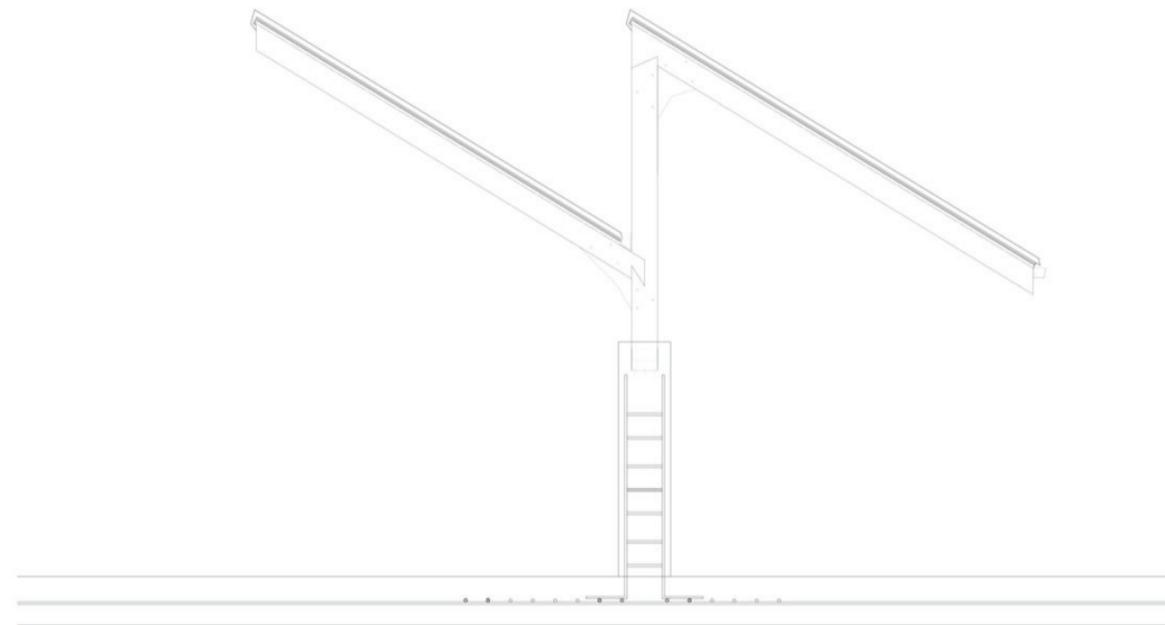
# Semester II

## My First Design

David Boles



Site Sections



Structure 1.20

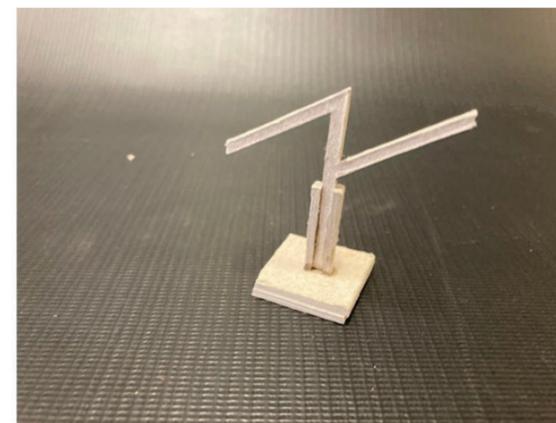
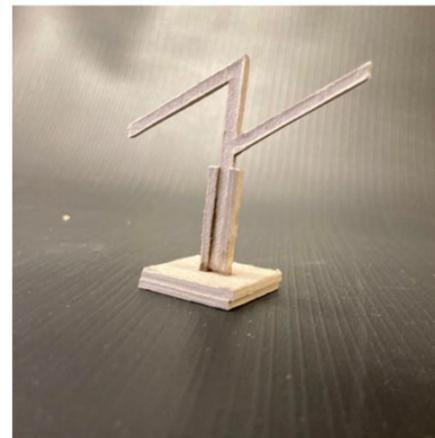
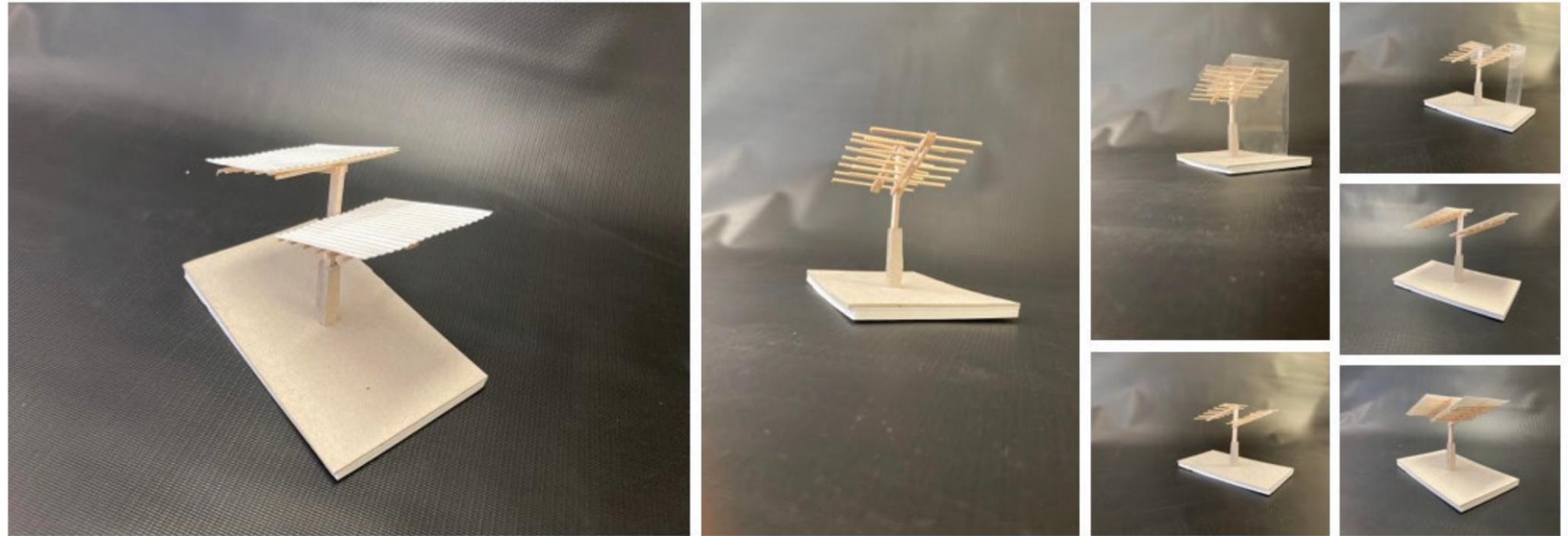
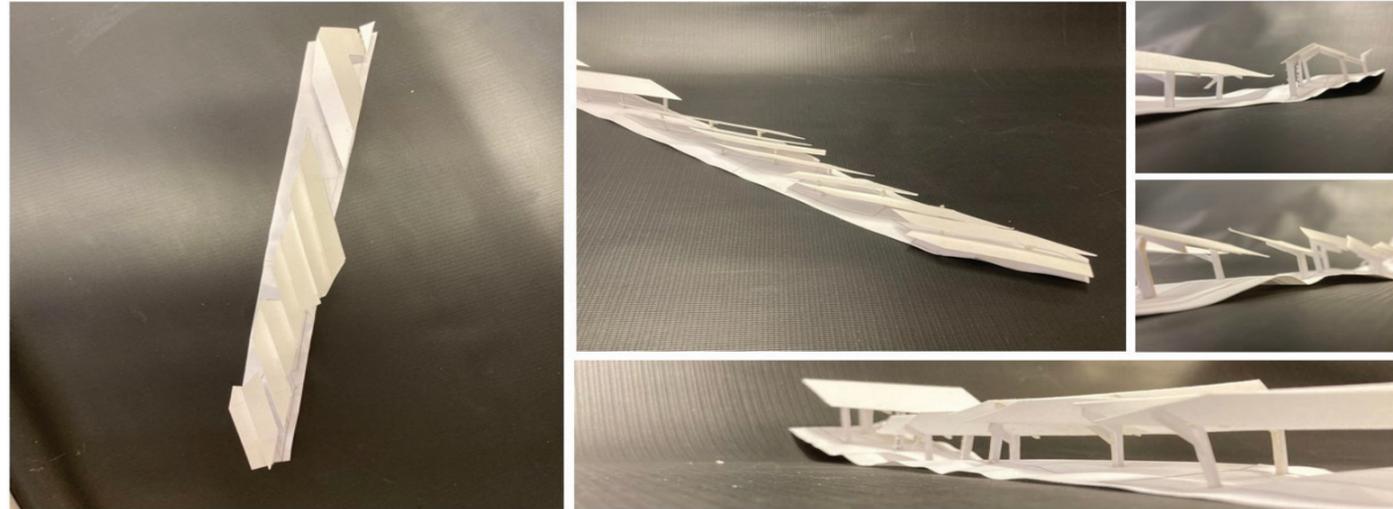
- Top:**  
*Site Sections With Design In-situ A.,B,C*
- Middle:**  
*Detail OF Structure*
- Bottom:**  
*North Elevation From River*



# Semester II

## Early Structure

David Boles

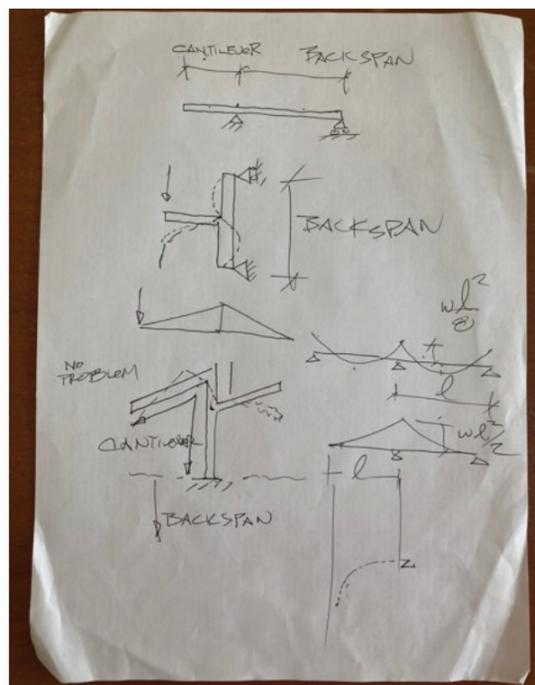
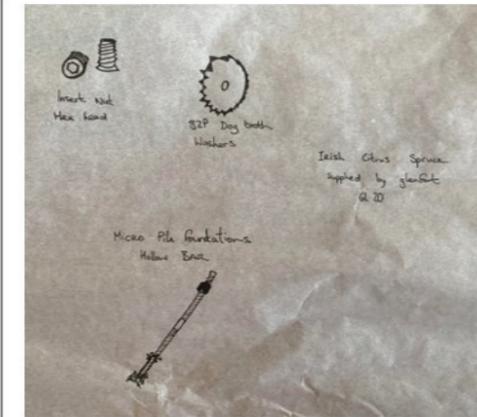
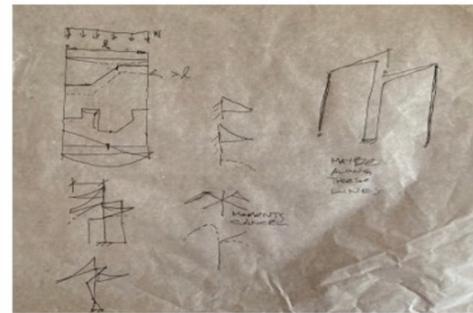
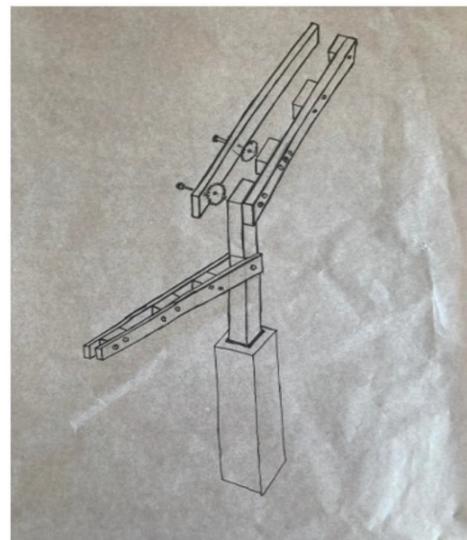
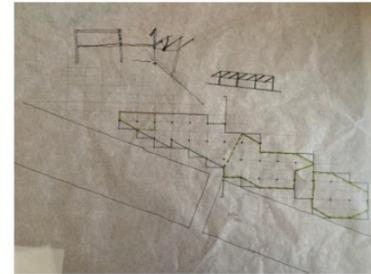
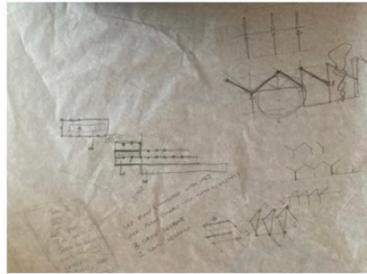
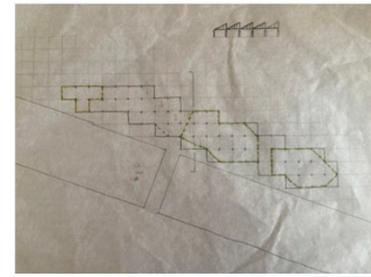
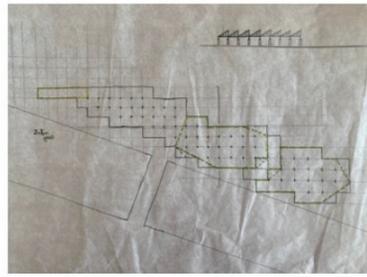


**Top:**  
*Building Structural Model*  
**Middle:**  
*Single Structural Bay Model*  
**Bottom:**  
*Early Single Structure Model.*

# Semester II

## Early Structure

David Boles



Images: Structural Concepts Will it Stand Up Looking Towards Bending Moments fixings and Materials

## Semester II

### Reflection 3

David Boles

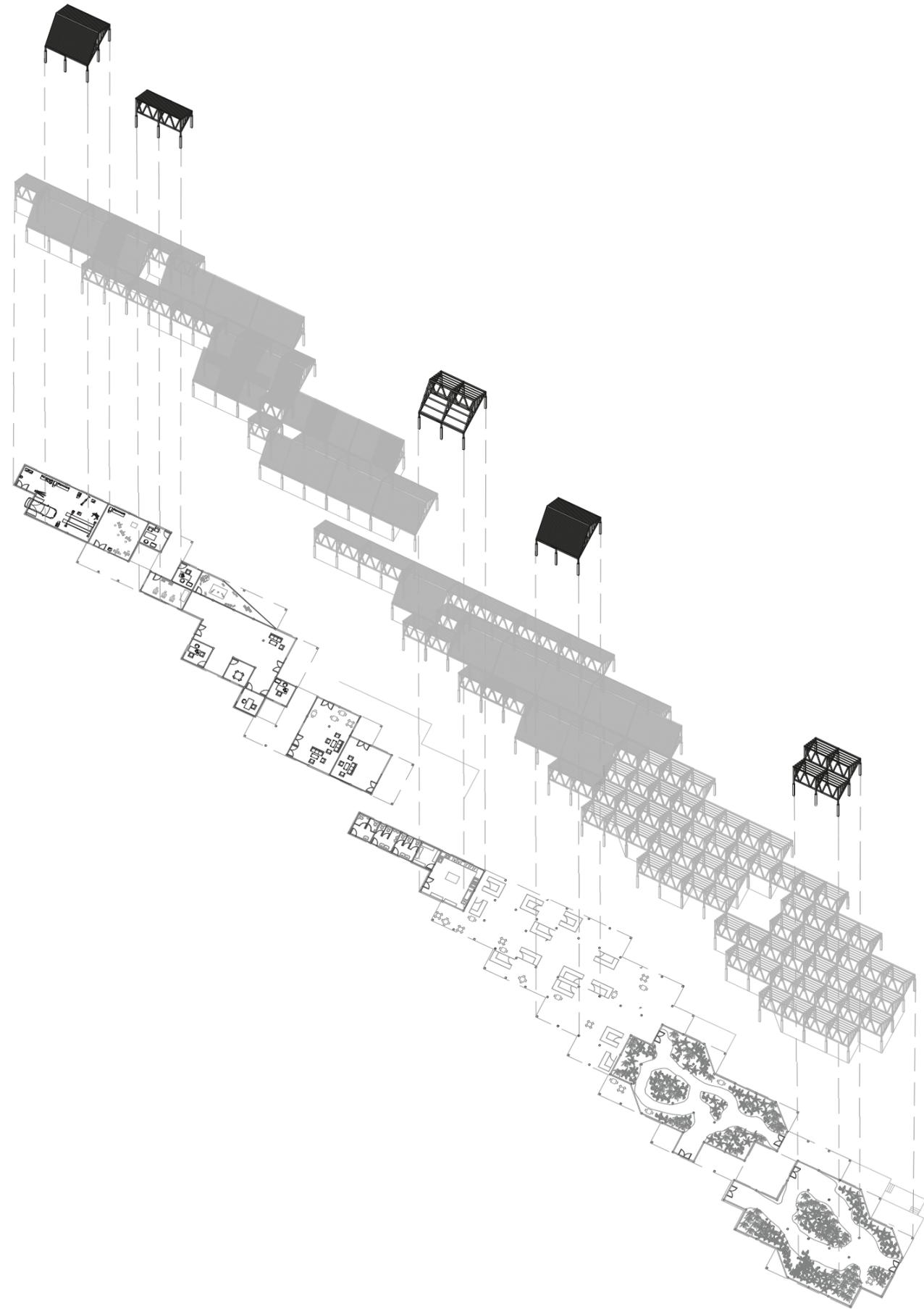
#### Reflection Stage 3

I have begun to develop my thesis projects around a structure. The structure lies within a 4 metre by 4 metre grid which will hopefully lead to definite decisions around the movement through my site and its location. I am also looking towards light to guide the design. Similar ideas are practiced by the likes of Australian Architect Glenn Murcutt. This function over form process will hopefully become a more driving feature of my design moving forward. I am currently working out my structure in as much detail as possible. Making sure the structure is sufficient and purposeful in its structural comprising members. It allows me also to look more towards the materiality of my project and to start making material decisions.

## Semester II

### My Second Design

David Boles

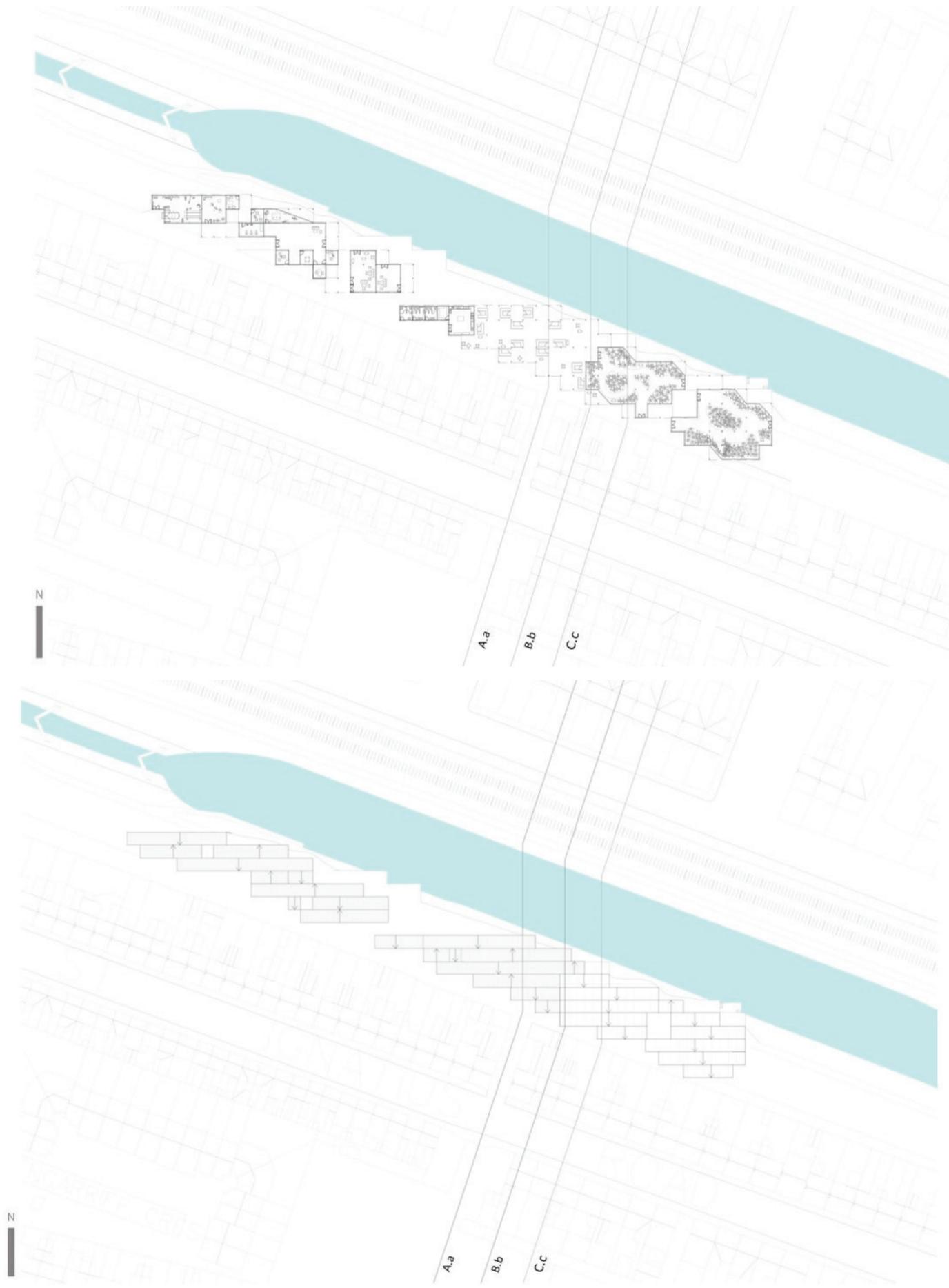


**Image:**  
*Exploded Axonometric Of Building*

# Semester II

## My Second Design

David Boles

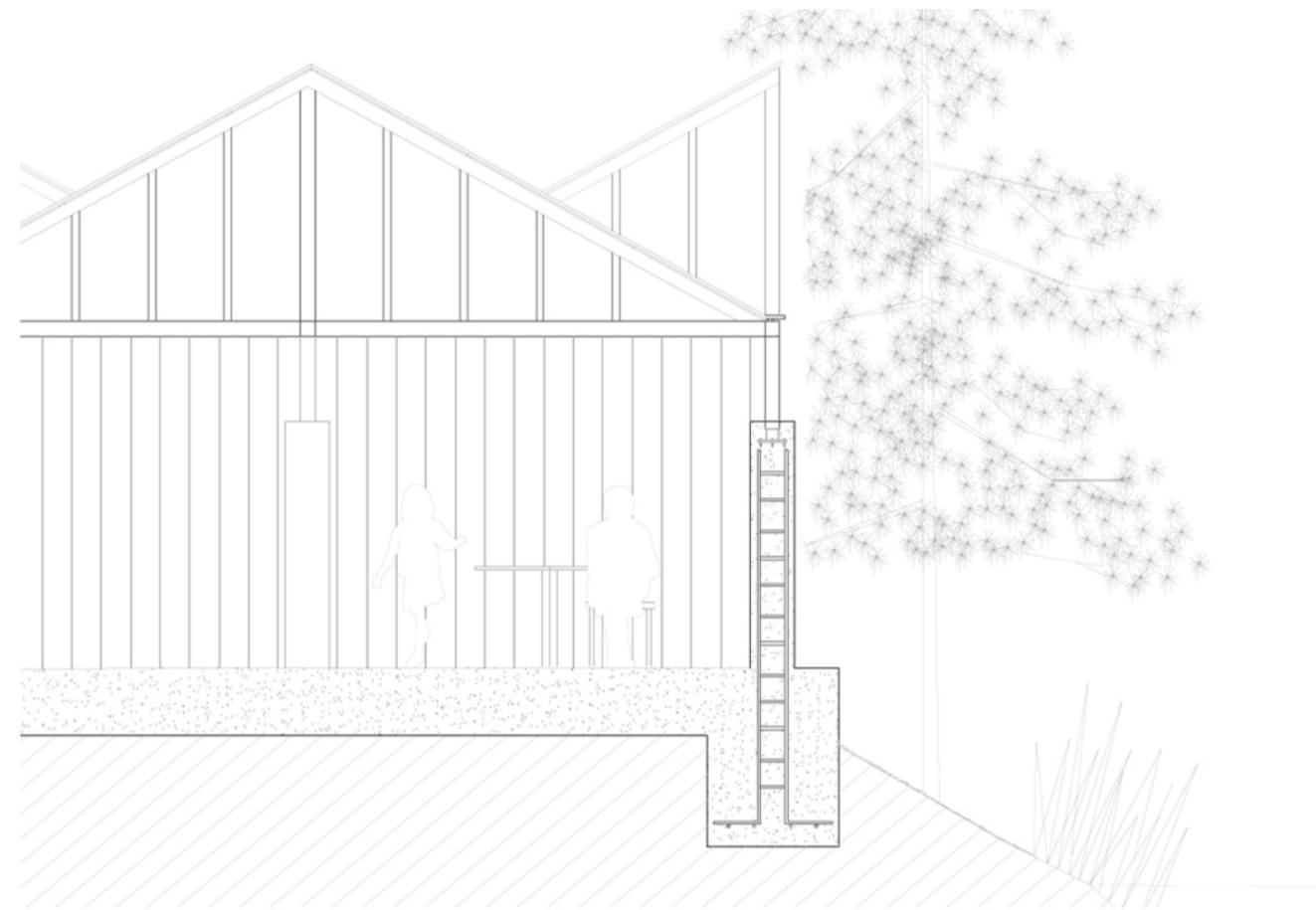
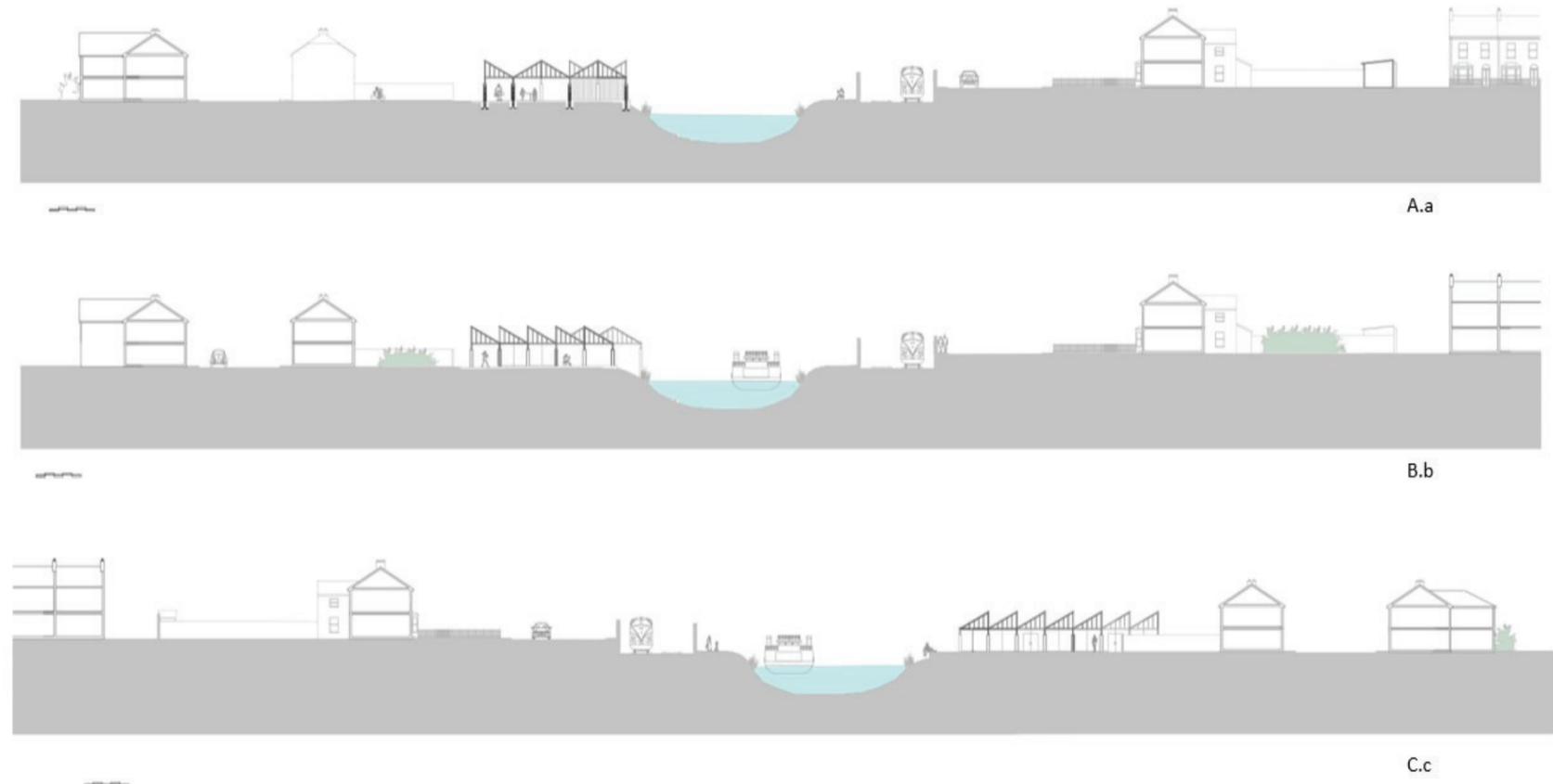


**Top :**  
*Building Layout and Floor Plan*  
**Bottom:**  
*Roof Plan Showing Pitches*

# Semester II

## My Second Design

David Boles

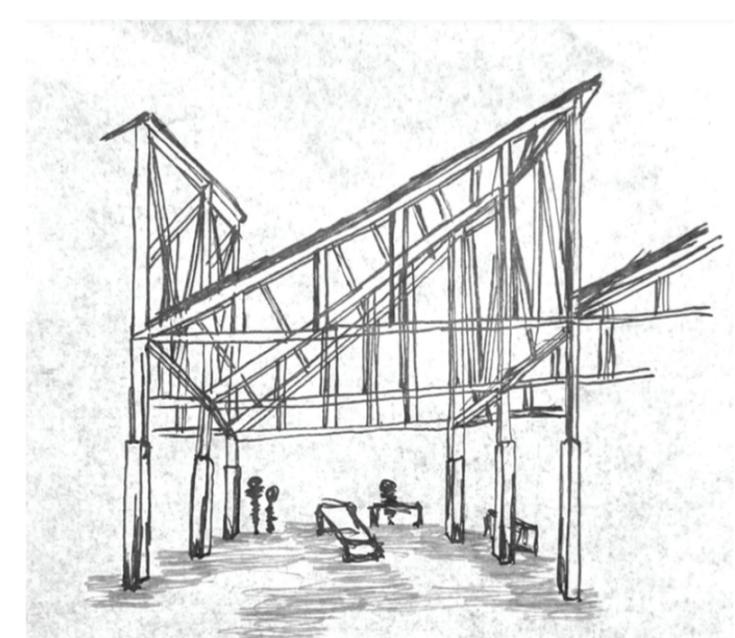
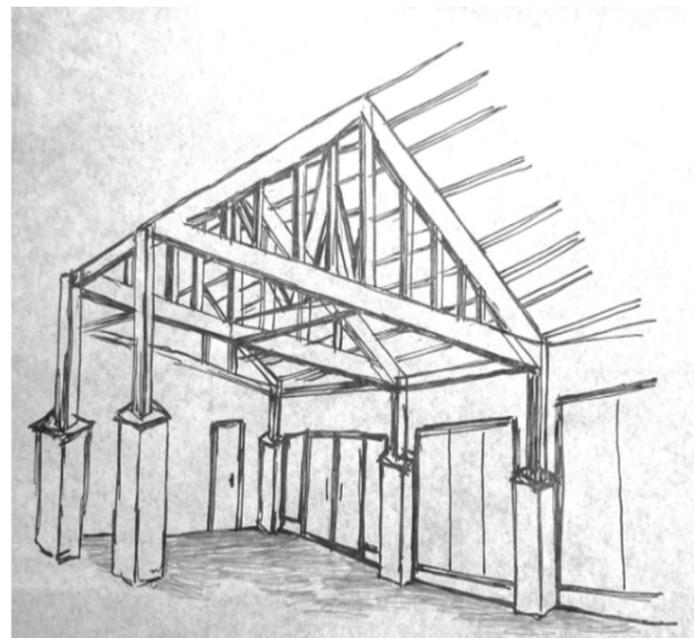
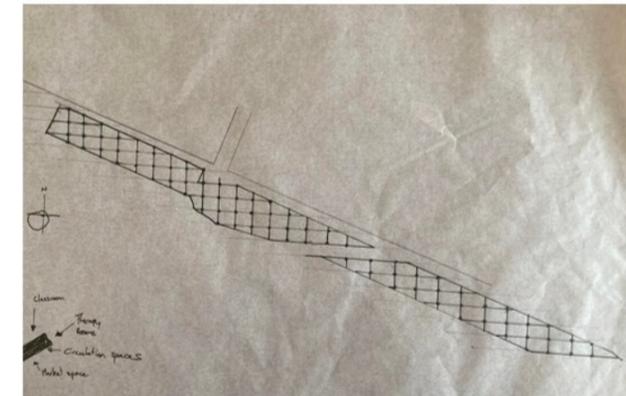
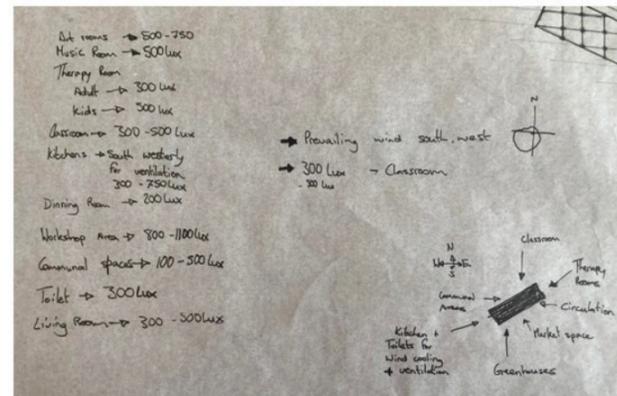
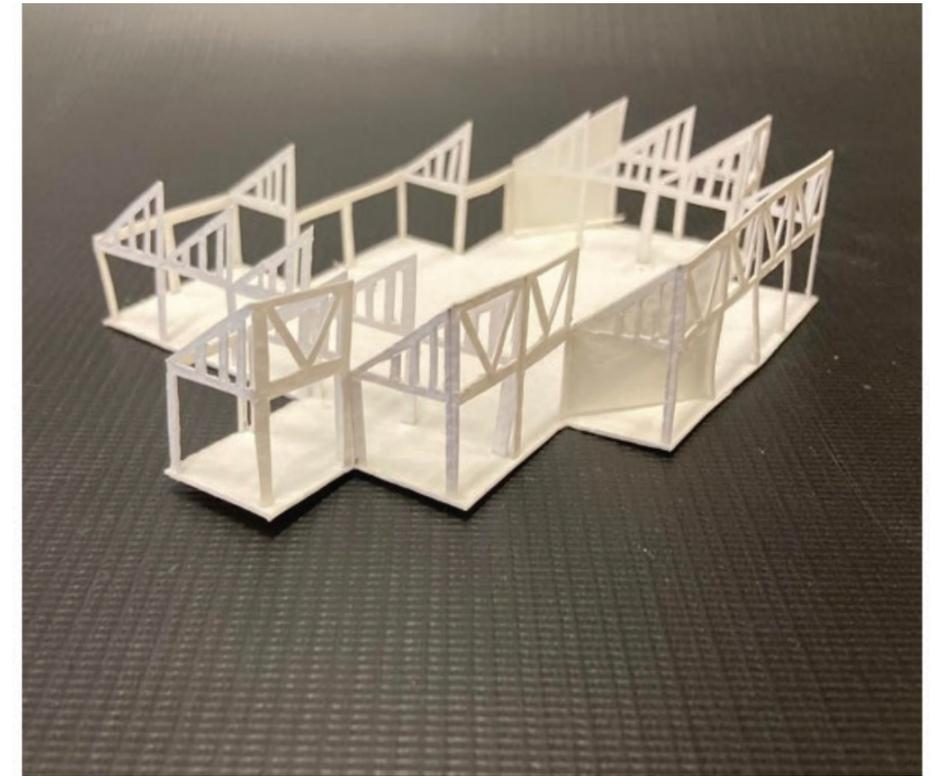
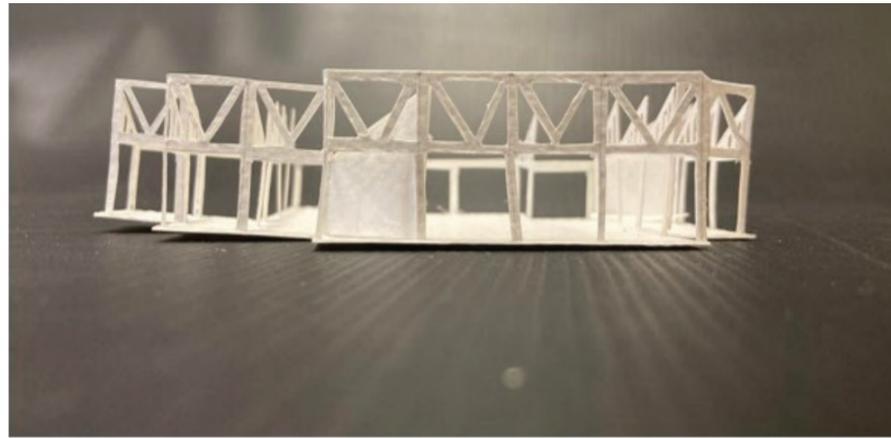


**Top:**  
Site Sections A,B,C  
**Bottom:**  
Closer Up Detail Section

## Semester II

### My Second Design

David Boles



#### Top:

Rough Model Figuring out Elevations

#### Middle:

Sketches figuring out Orientation and room layouts from the structure

#### Bottom:

Sketch Spatial Drawings.

## Semester II

### Reflection 4

David Boles

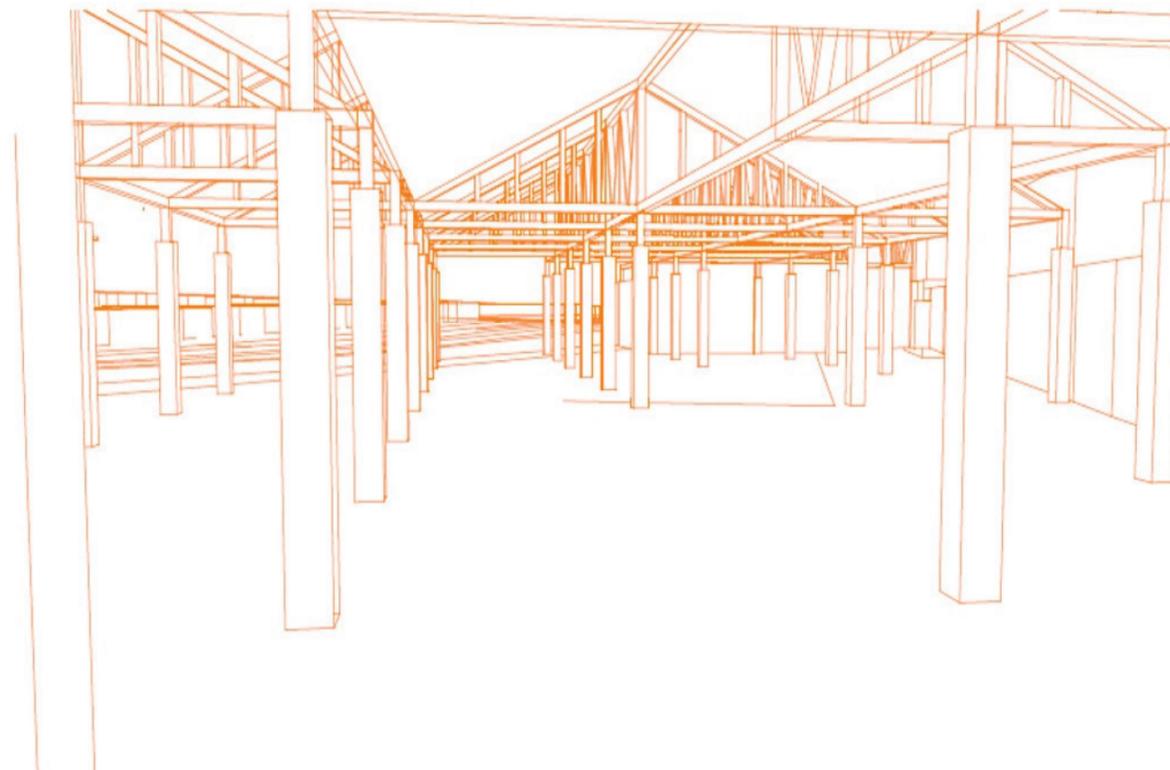
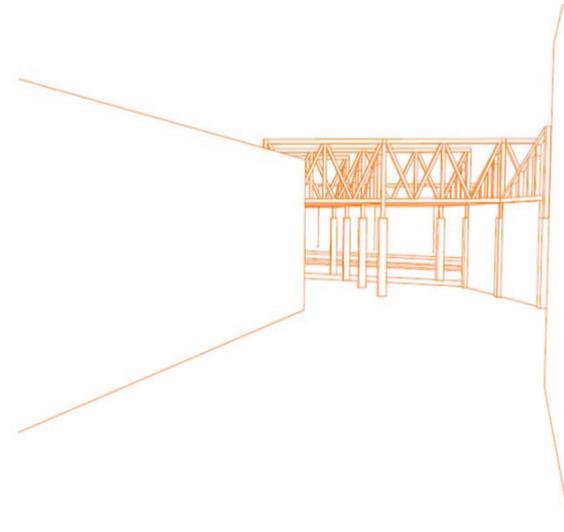
#### Reflection Stage 4 Final Review

At this stage I began to develop my project more around my structure which is becoming the defining element. Having a set roofing structure has begun to allow me to create moments and interactions through my site. Thresholds from outside to inside are becoming a large element which should help me develop the interior further. The more developed my interior and shelter spaces are becoming the more evident my interaction with the landscape and riverscape needs to be carefully handled. Do I juxtapose the natural edge of the existing river or do I try and shape that natural edge to my building? The wider royal canal is becoming fundamental to my masterplan for the project so that the Dublin food co-op might become a central sales point with other greenhouse along the stretch from the Royal canal back to the city and feeding into it whilst using the existing infrastructure of the current Royal Canal for transportation purposes. This great attention to the wider canal should allow me an opportunity to move my project through a variety of scales.

## Semester II

### My Design

David Boles



**Top:**  
*Line Drawing Looking Towards the Market Space.*

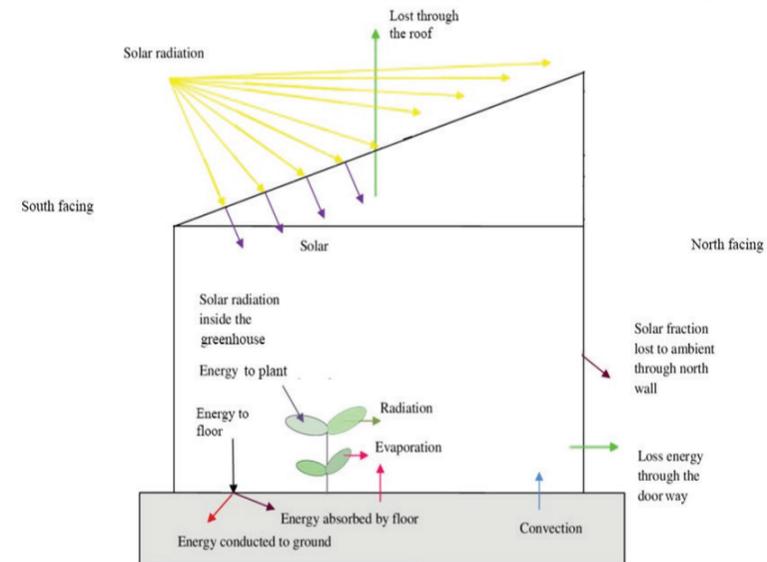
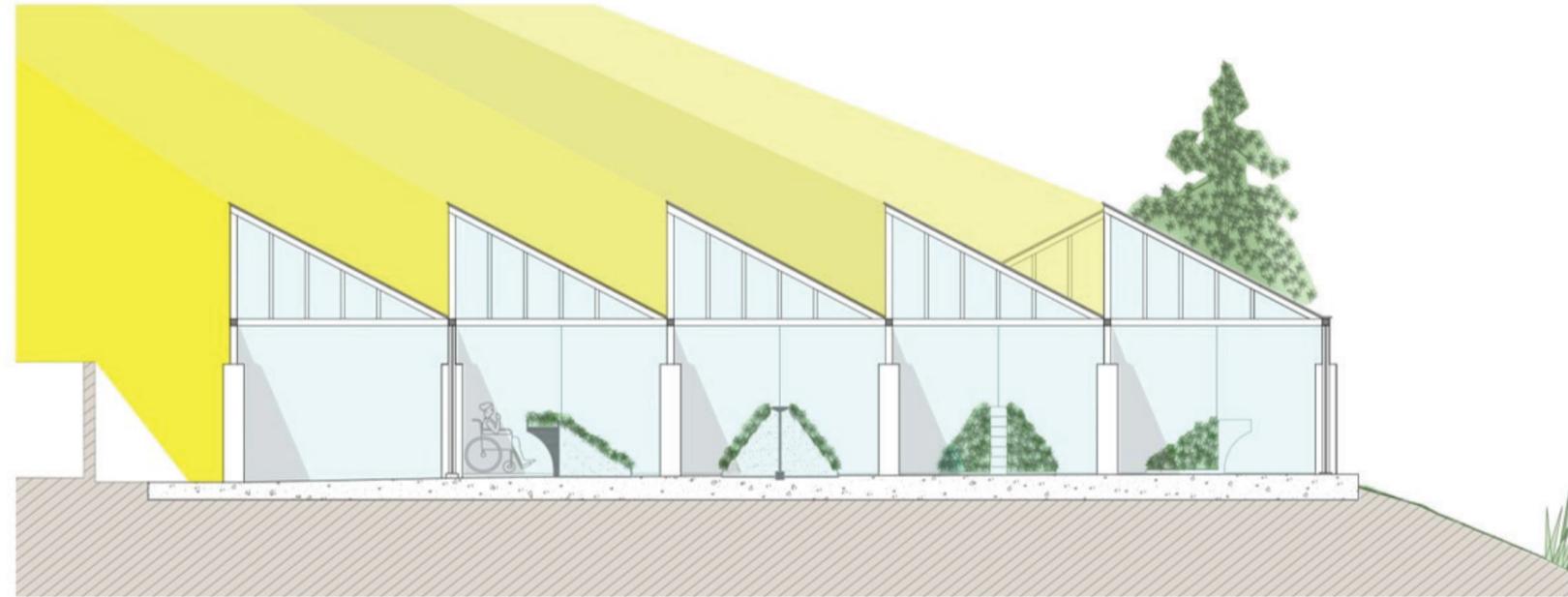
**Middle:**  
*Line Drawing From Ignatius Road.*

**Bottom:**  
*Line Drawing From Underneath Roof Canopy*

# Semester II

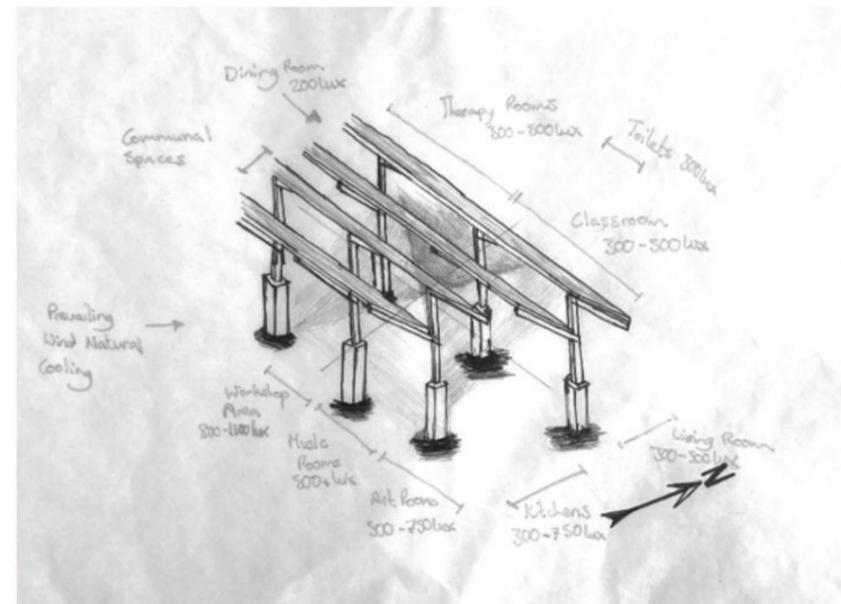
## My Design

David Boles



**Top:** Greenhouse Beds Design and Light Interaction.  
**Middle:** How a Greenhouse Works  
**Bottom:** Layout of Rooms According to Light

Average Springtime Light Clear Day	Lux
5:55 am sunrise	750
6:10 am	2,500
6:20 am	5,000
6:40 am	10,000
12:00 noon	81,000
5:10 pm	10,000
5:30 pm	5,000
5:40 pm	2,500
5:55 pm sunset	750



Rooms	Lux Required	
Art Rooms	500-750	
Music Rooms	500	
Therapy Rooms	300	Adult
	300	Kids
Classroom	300-500	
Kitchens	300-750	
Dining Area	200	
Workshop Area	800-1100	
Communal Spaces	100-500	
Toilet	300	
Living Room	300-500	

## Semester II

### My Design

David Boles



**Top:**

*Atomspheric of Marketspace*

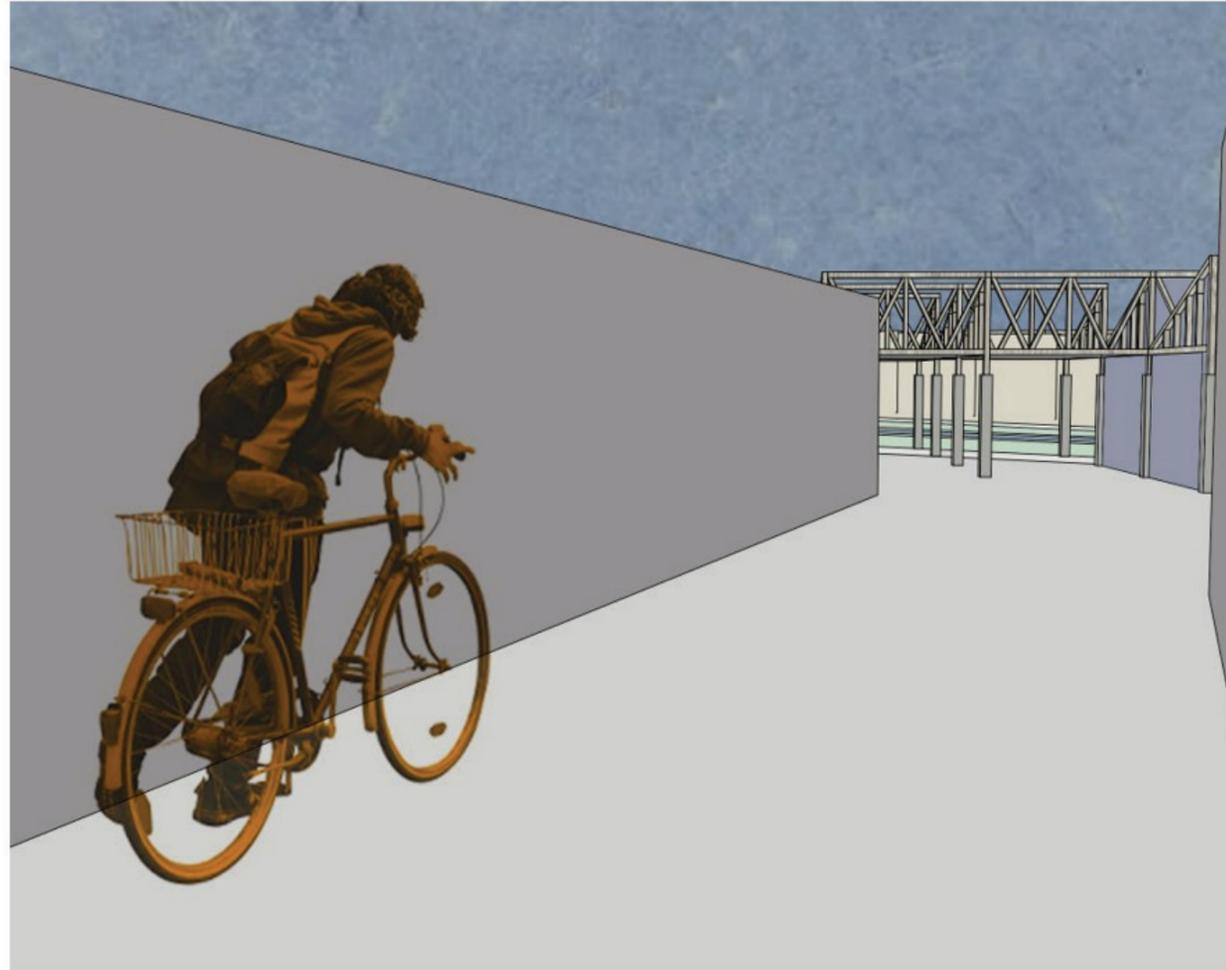
**Bottom:**

*Atomspheric of Underneath Roof  
Canopy*

## Semester II

### My Design

David Boles



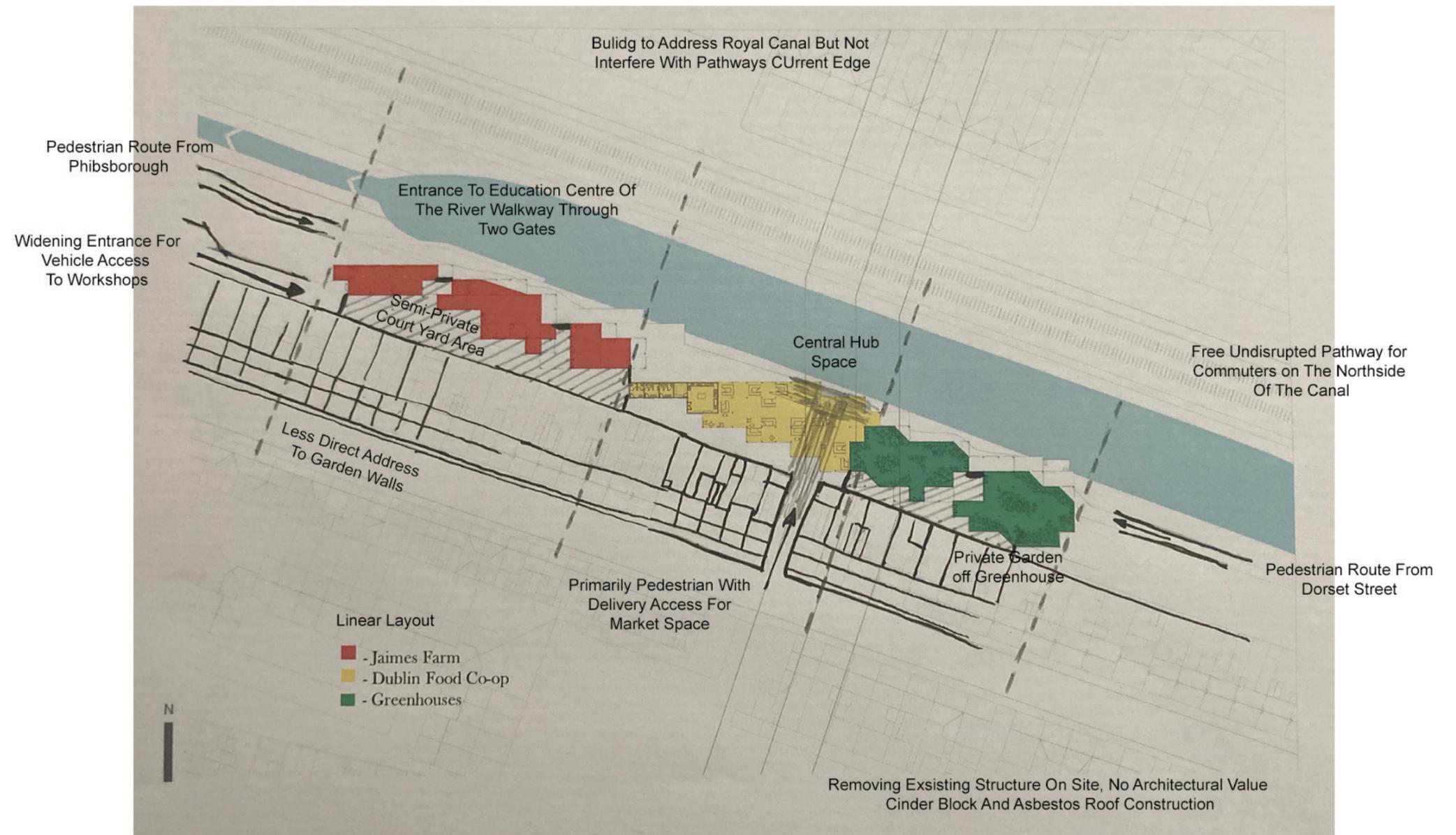
**Top:**  
*Atomspheric of Marketspace View from  
St. Ignatius Road*

**Bottom:**  
*Atomspheric of Interior Of Therapy  
Room*

# Semester II

## My Design

David Boles

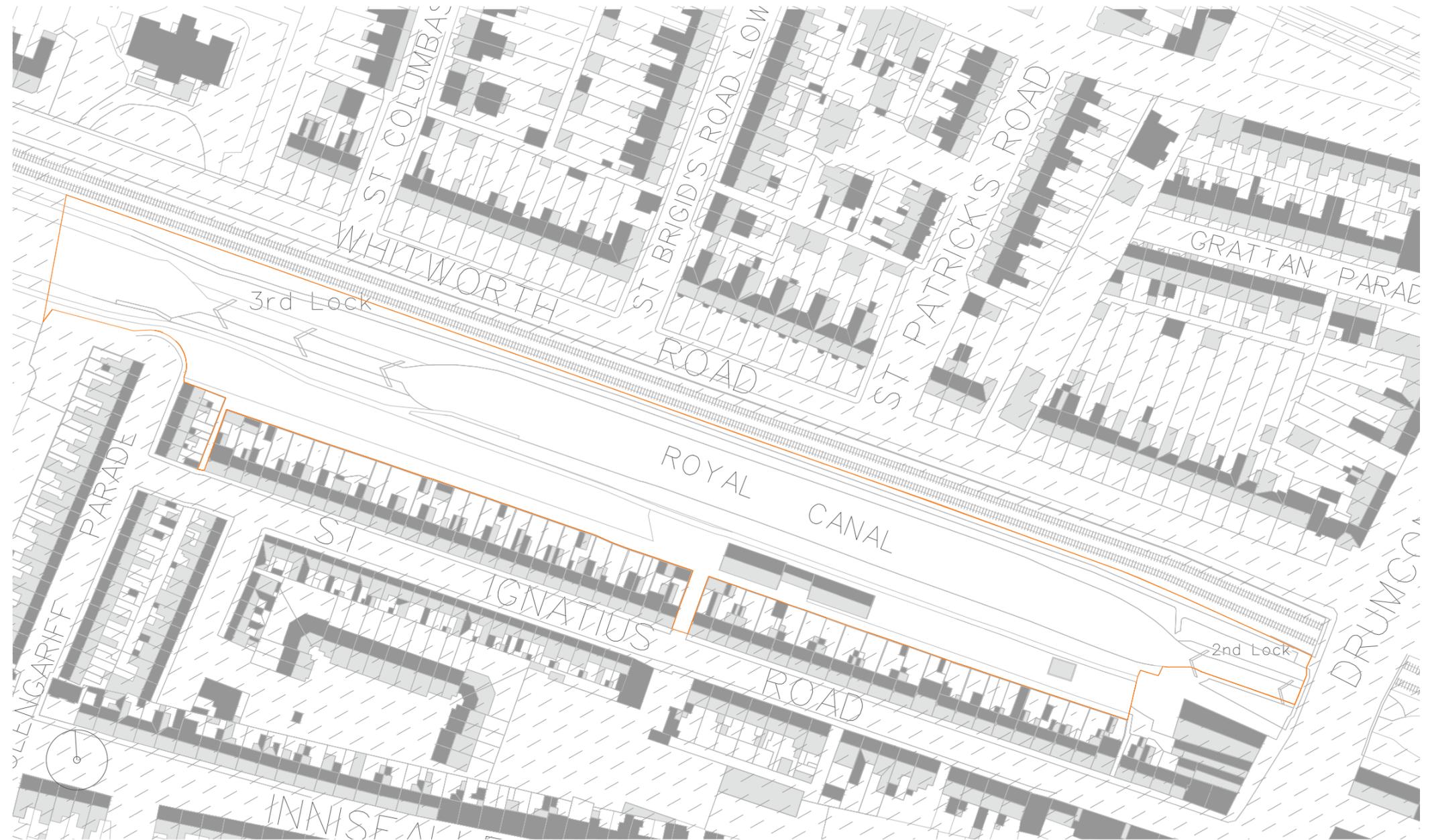


**Image:**  
*Masterplan for Site and Urban Moves*

# Semester II

## My Design

David Boles

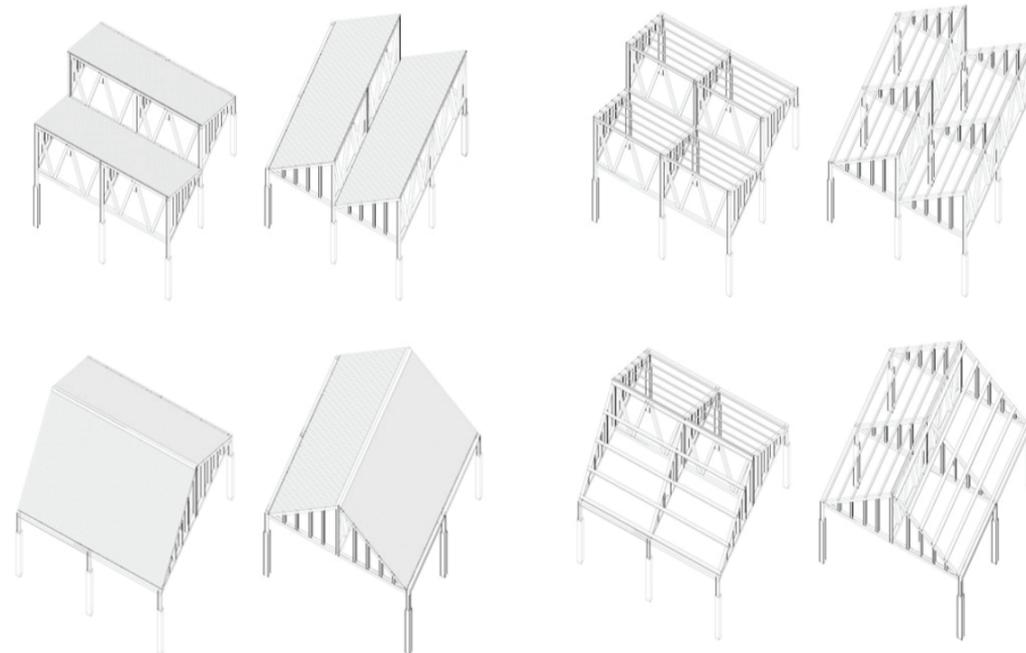


**Image:**  
Site Map and Boundary

# Semester II

## The Structure

David Boles

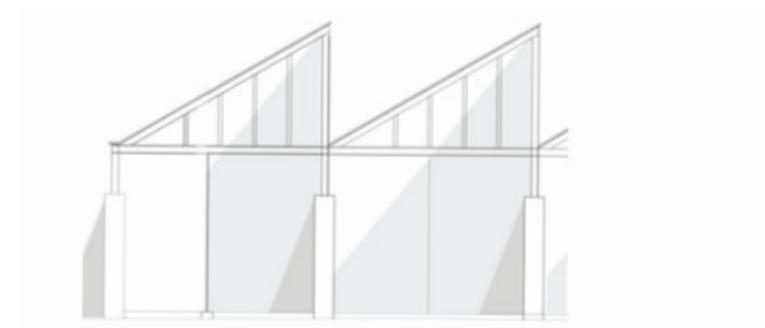
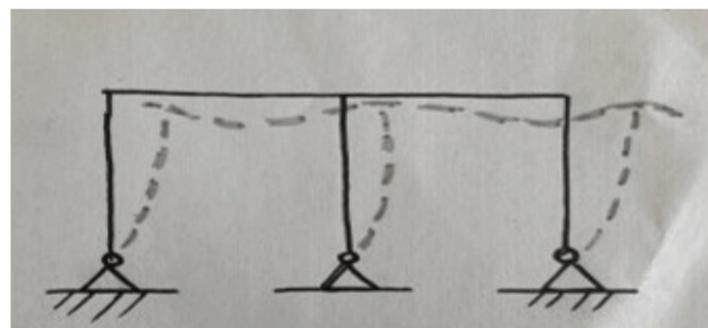


**Top:**  
Structural Model.

**Middle:**  
Structural Blocks Variations

**Bottom Left:**  
Bending Moments Diagram

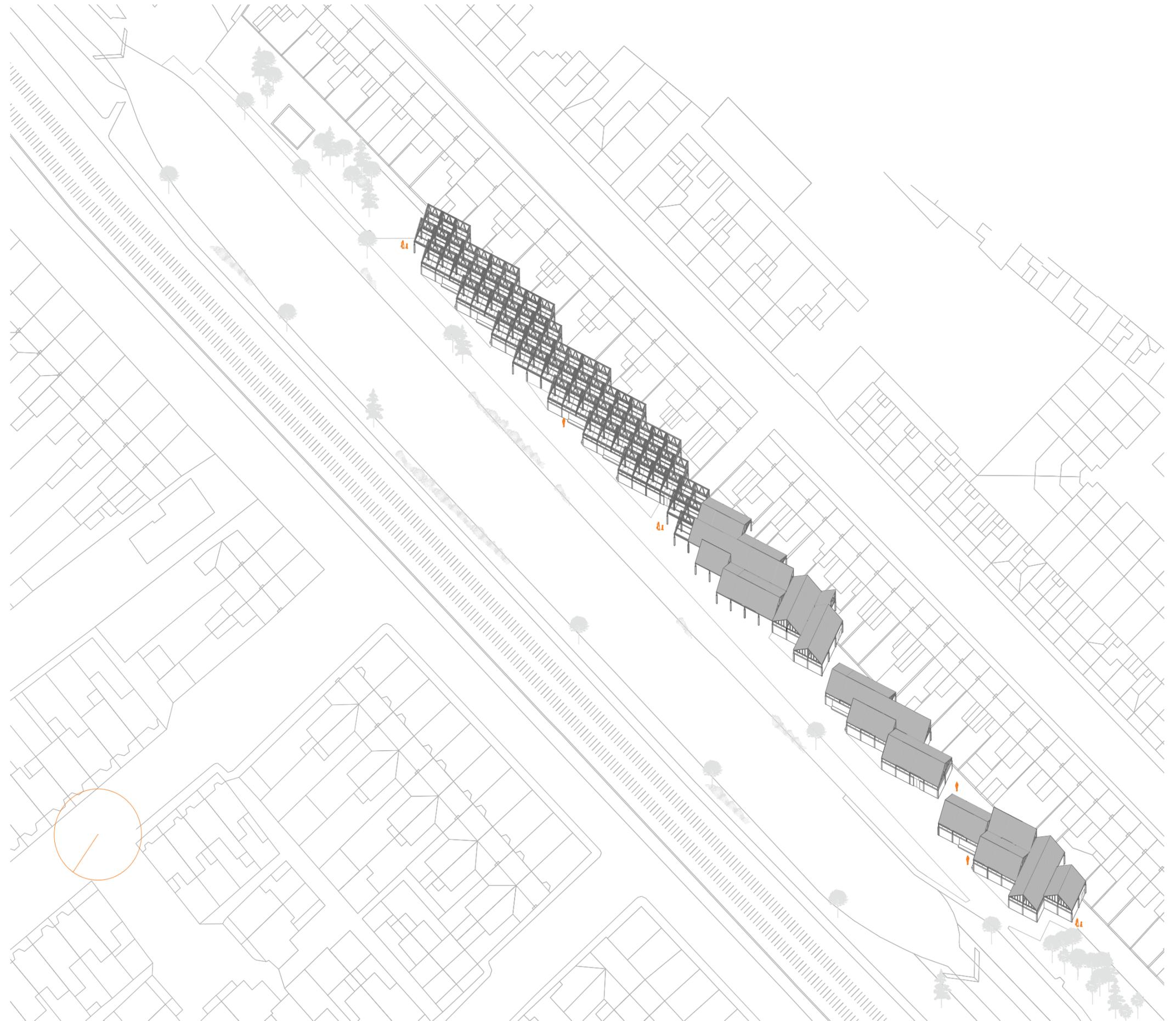
**Bottom Right:**  
Shadow Study Structure.



# Semester II

My Design

David Boles

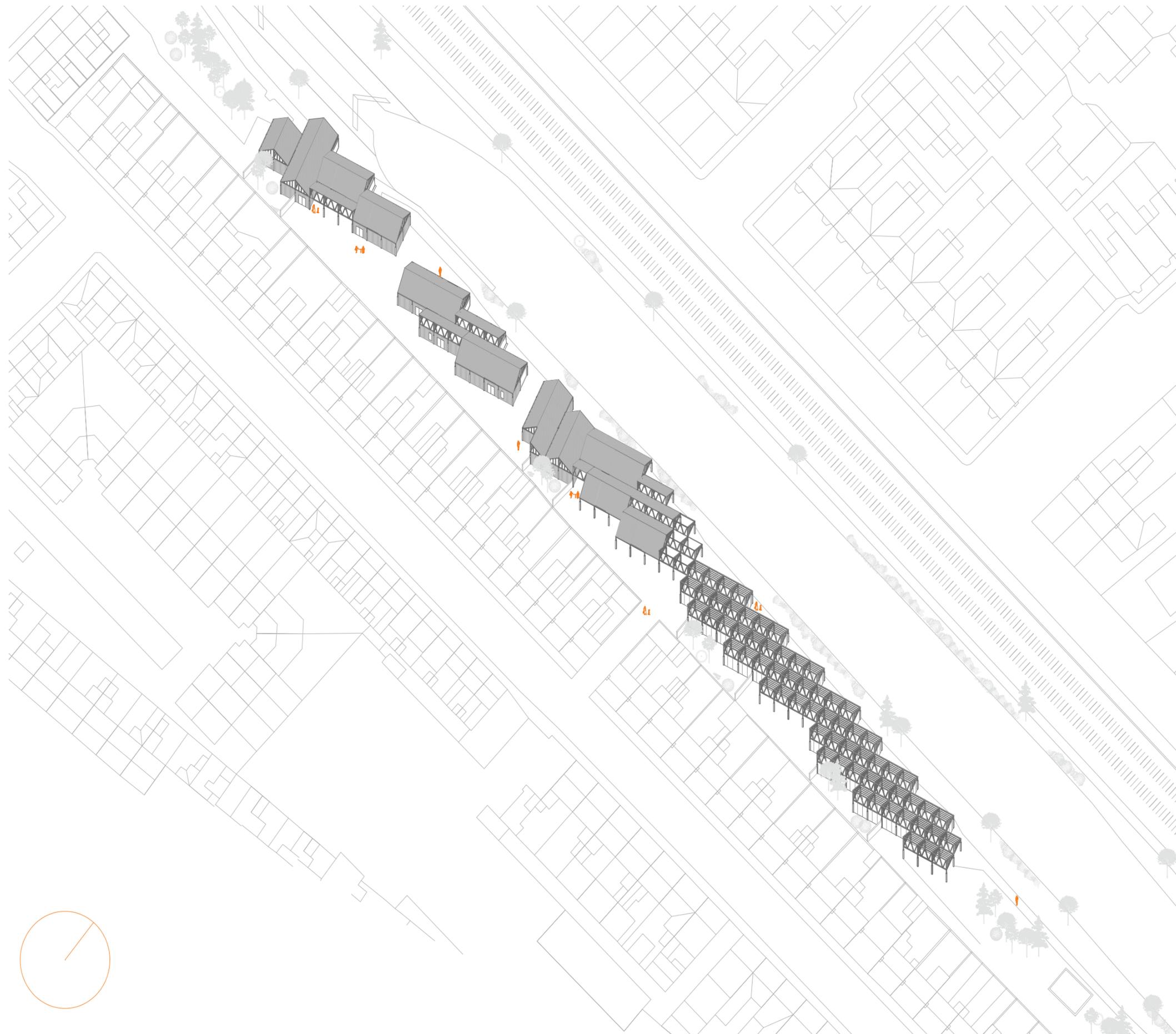


**Image:**  
*Axonometric of Scheme In Context  
North to South View*

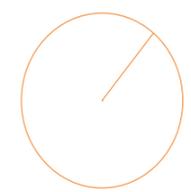
# Semester II

My Design

David Boles



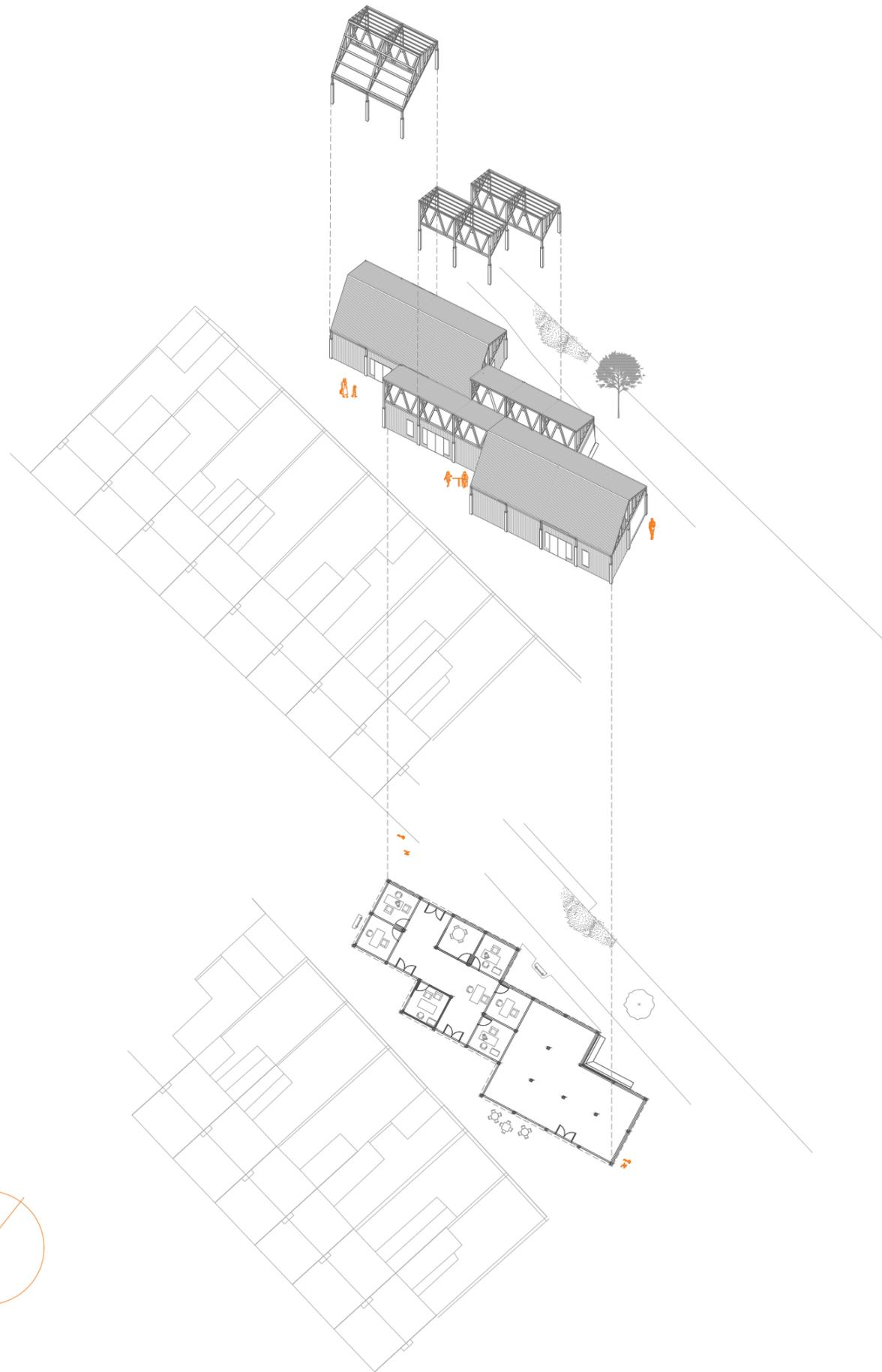
**Image:**  
*Axometric of Scheme In Context*  
*South to North View*



# Semester II

## My Design

David Boles



**Images:**  
*Exploded Axonometric With Building Elements*



# Semester II

My Design

David Boles

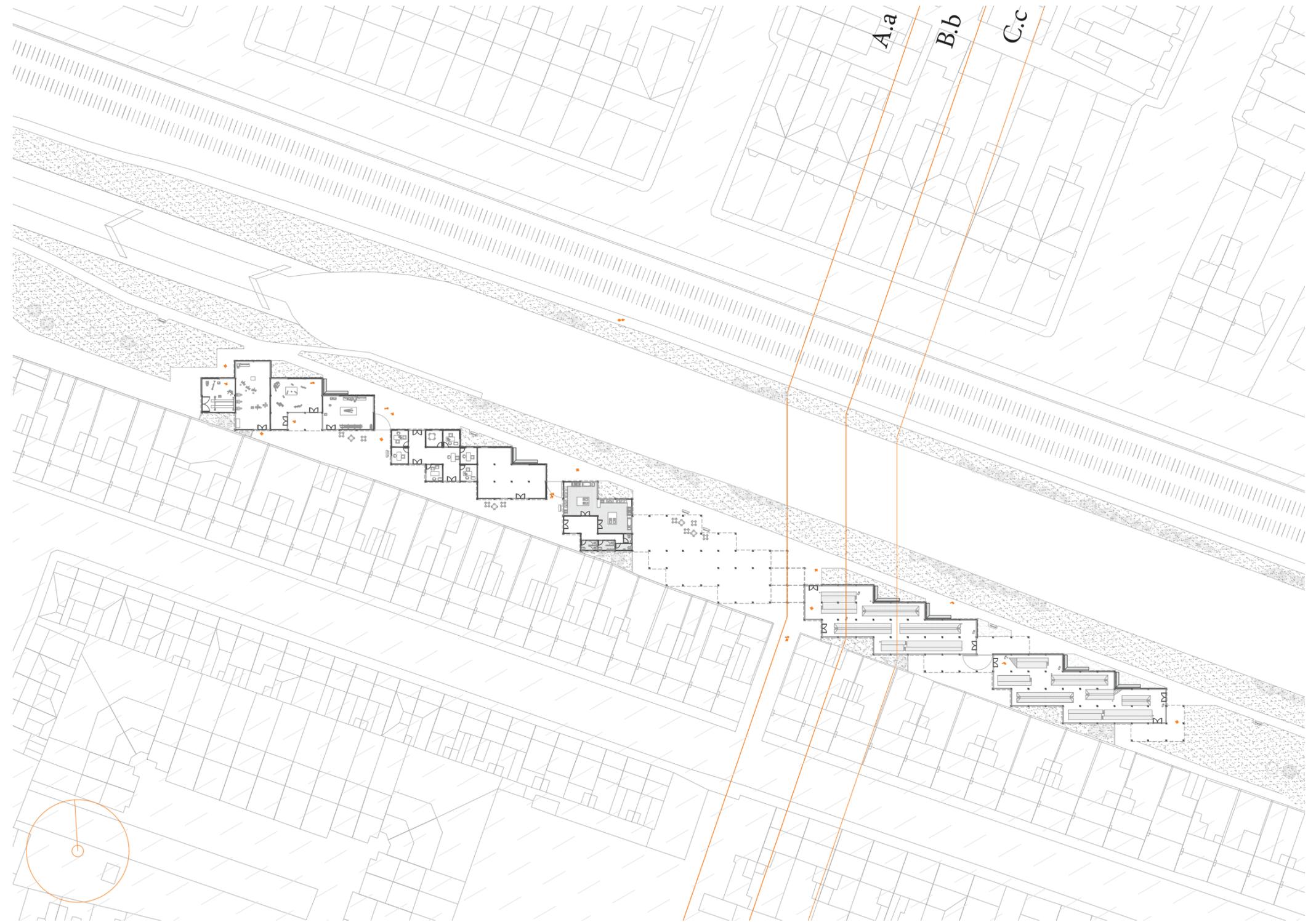


**Image:**  
*Roof Plan with Pitches Marked*

# Semester II

My Design

David Boles

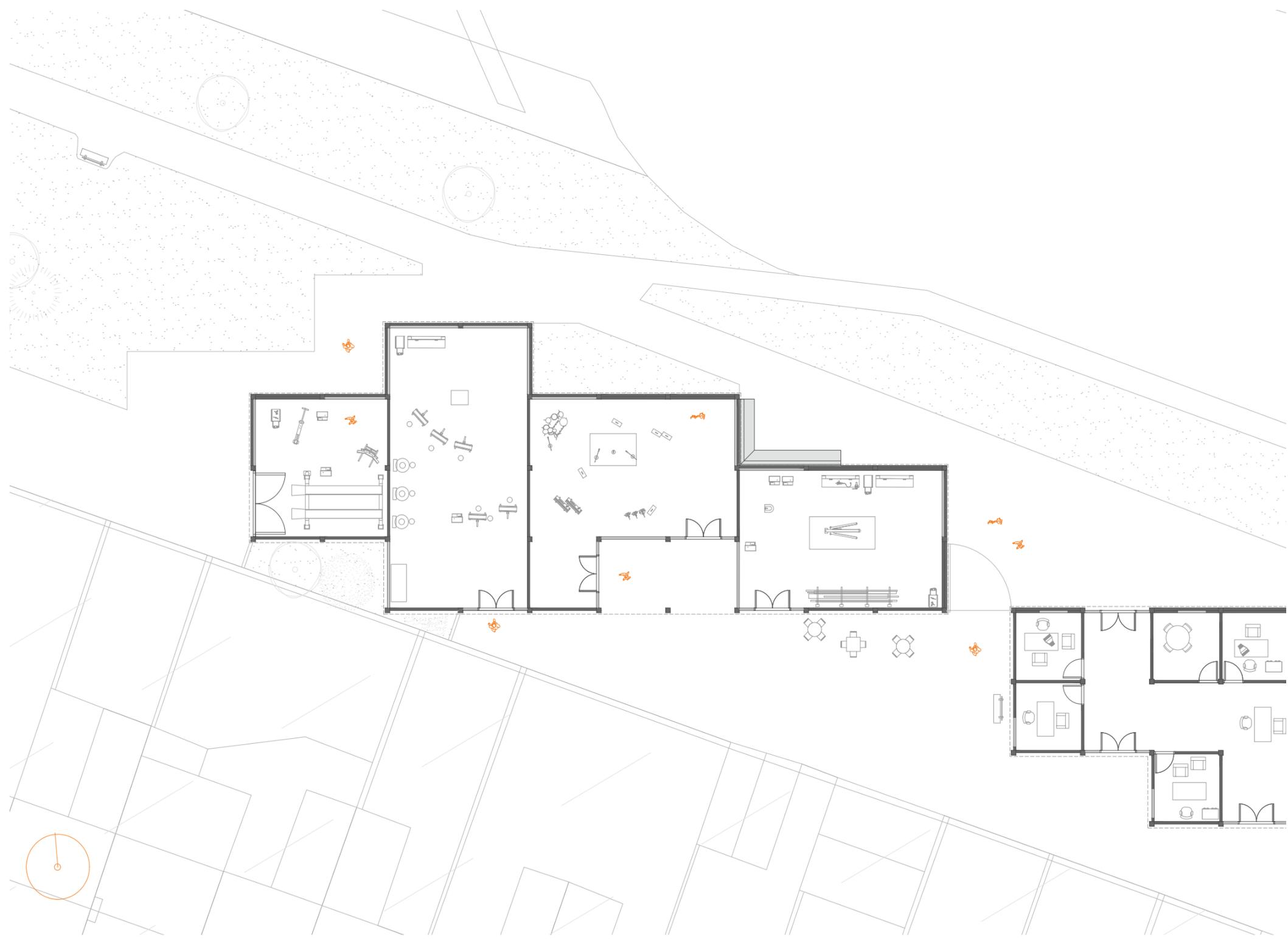


**Image:**  
*Floor Plan Of Building*

# Semester II

## My Design

David Boles



**Image:**  
*Zoomed In Jamies Farm Workshop  
Floor Plans*

# Semester II

## My Design

David Boles

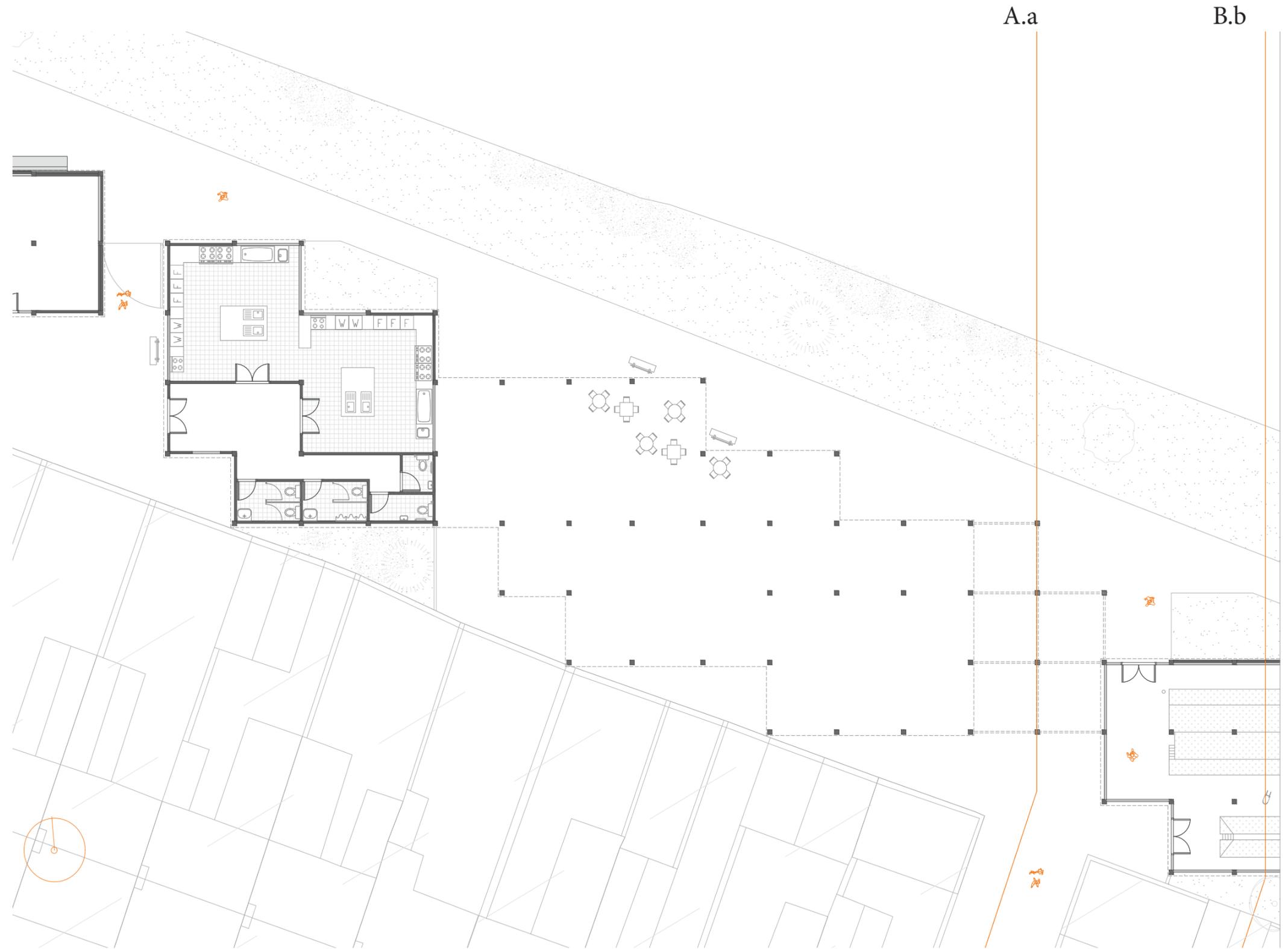


**Image:**  
*Zoomed In Jamies Farm Therapy  
Rooms and Multi Function Space,  
Floor Plans*

# Semester II

## My Design

David Boles

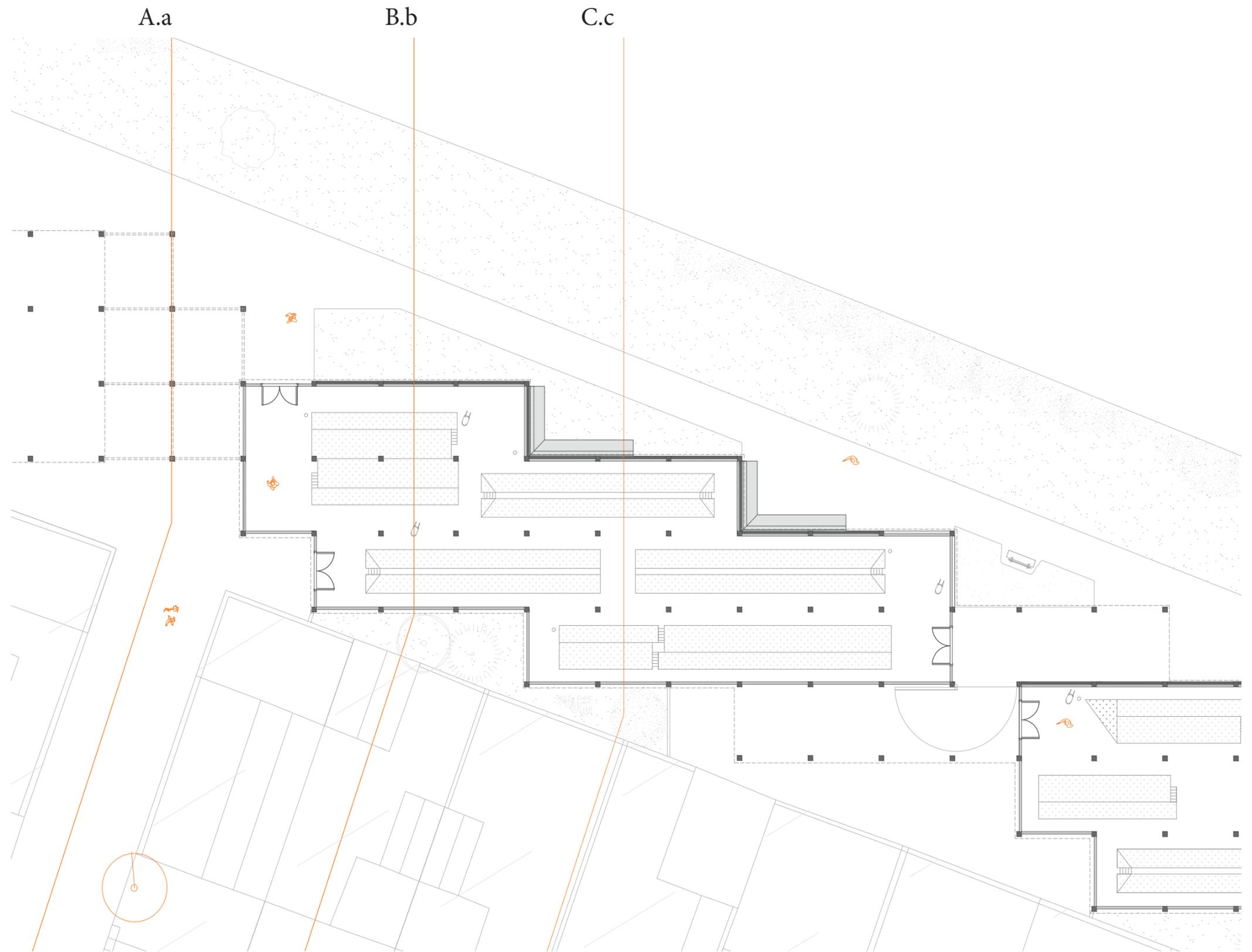


**Image:**  
*Zoomed In Dublin Food Co-op  
Marketspace Floor Plans*

# Semester II

My Design

David Boles



**Image:**  
Zoomed In Dublin Food Co-op  
Greenhouses Floor Plan Adjacent To  
Marketspace

# Semester II

## My Design

David Boles

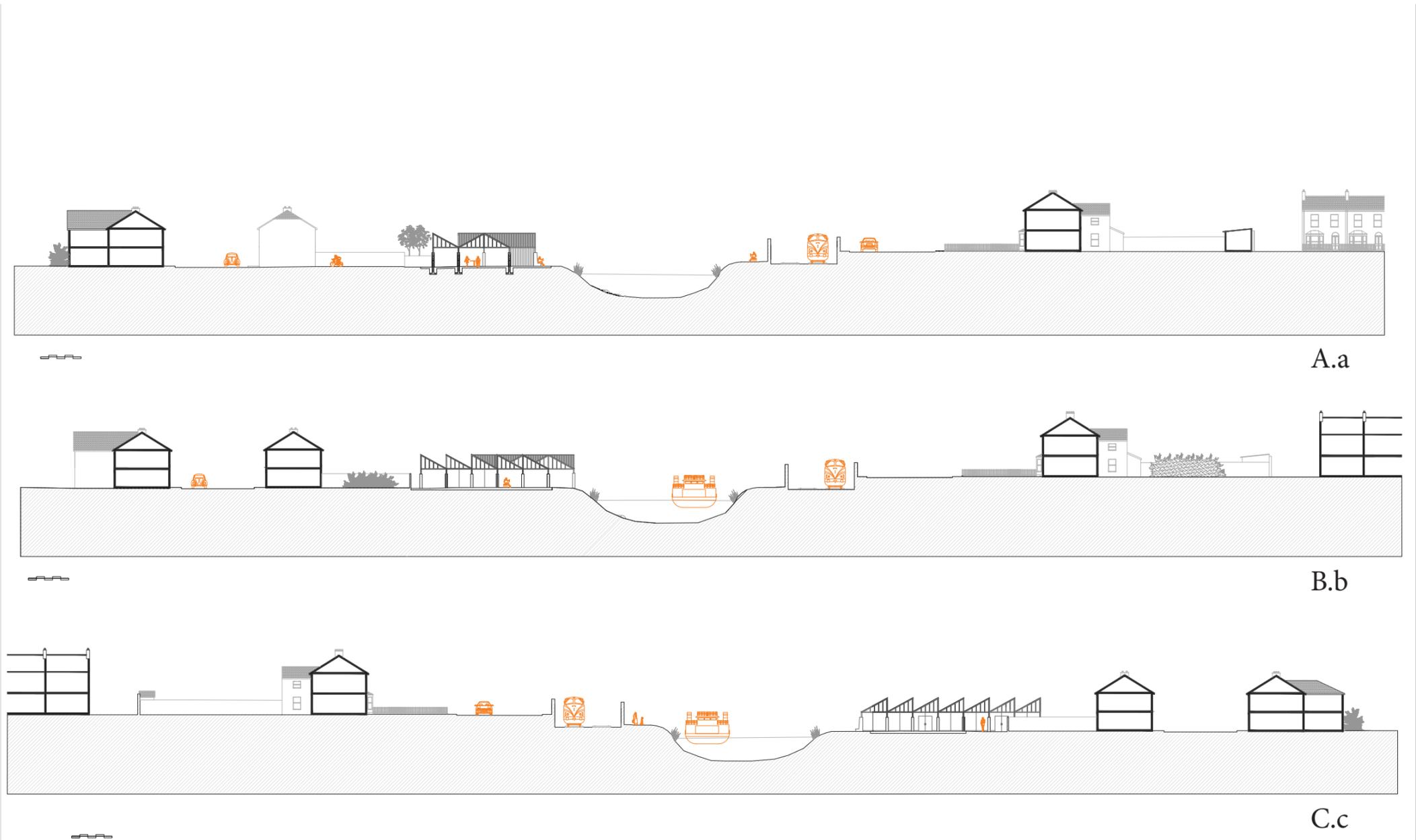
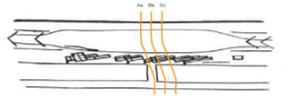


**Image:**  
*Zoomed In Dublin Food Co-op  
Greenhouses Floor Plan*

# Semester II

## My Design

David Boles

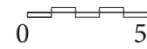
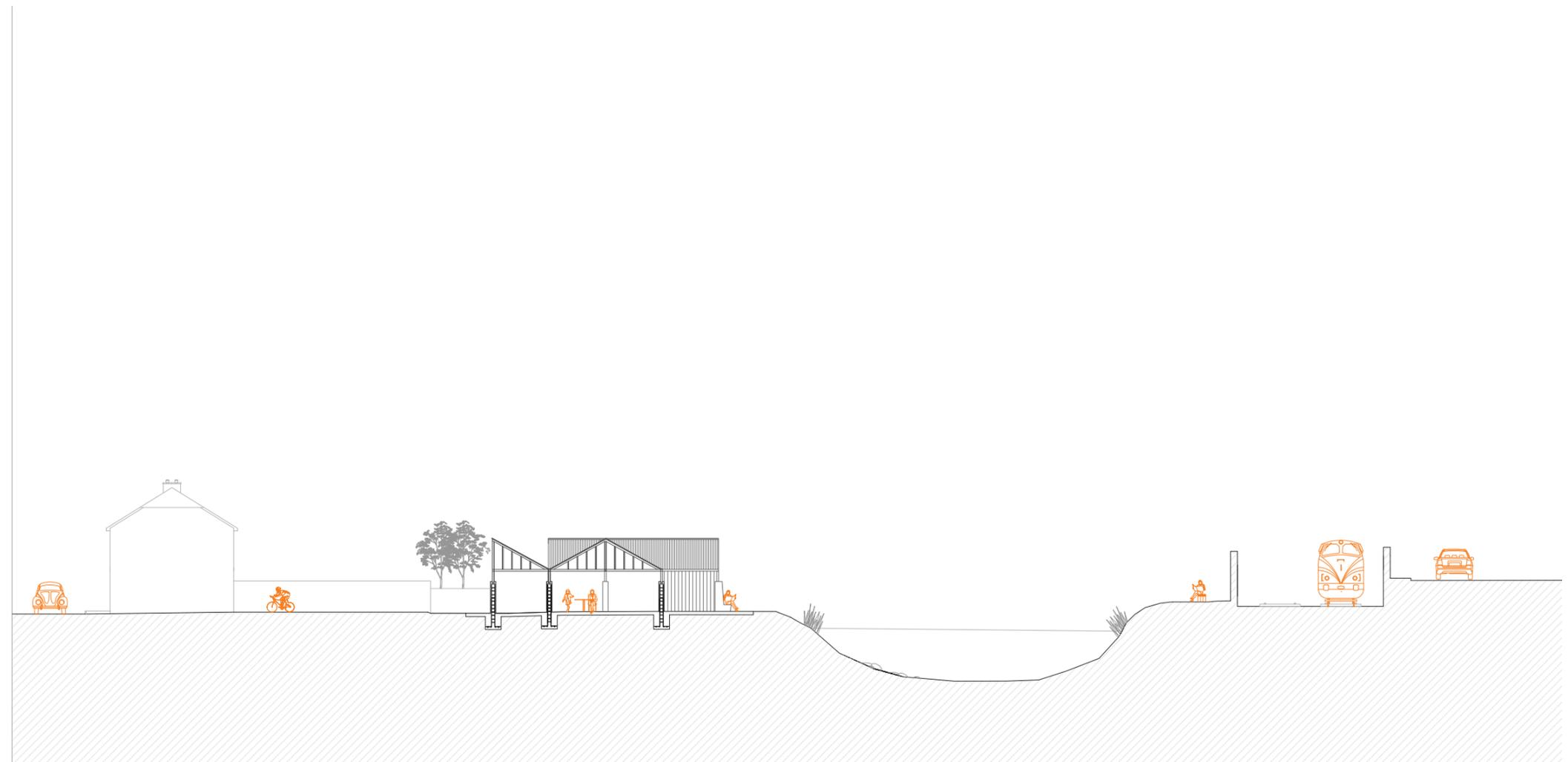
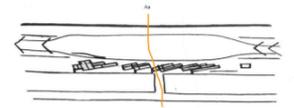


**Top:**  
Section A.a.  
**Middle:**  
Section B.b  
**Bottom:**  
Section C.c

# Semester II

## My Design

David Boles



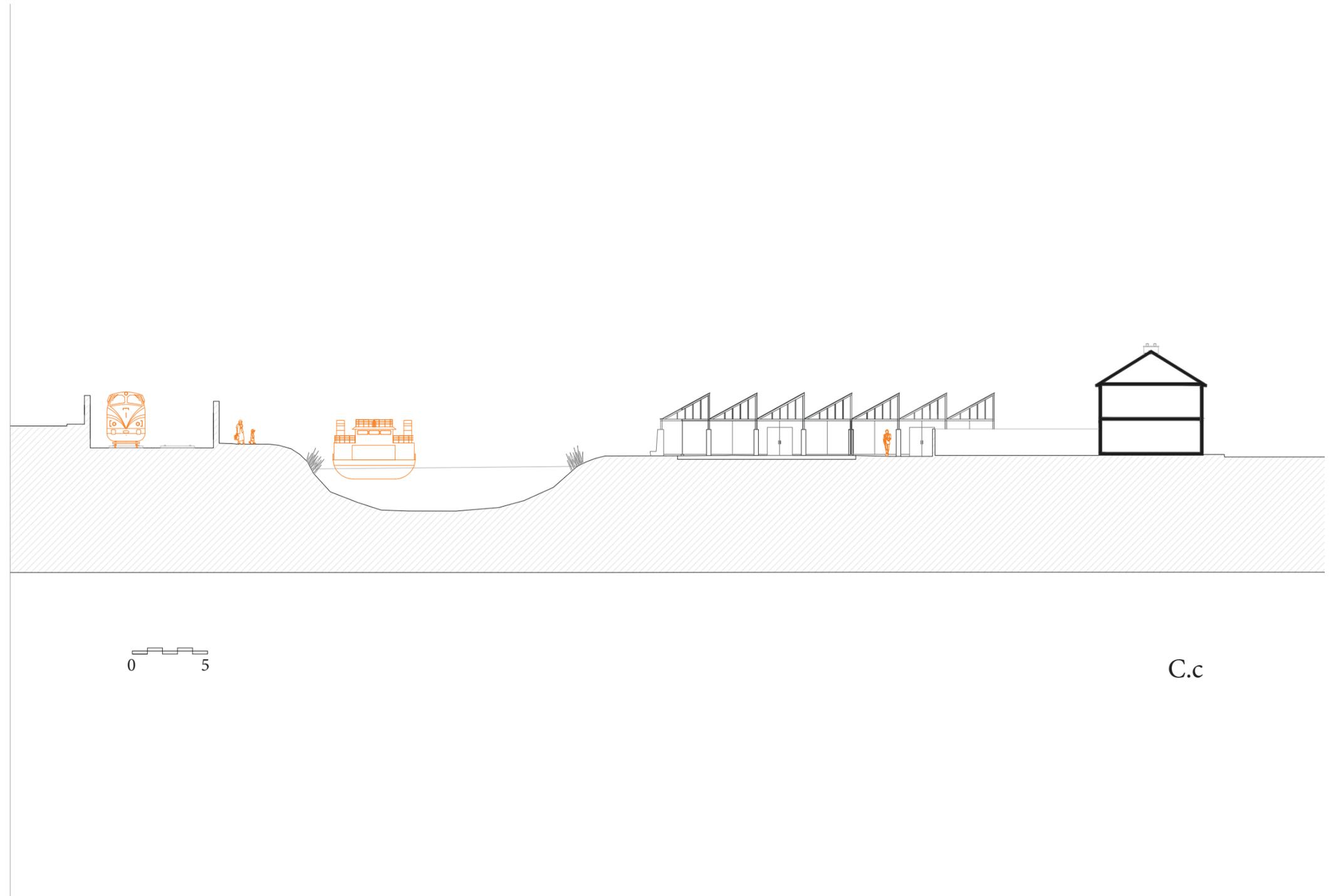
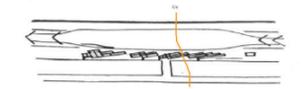
A.a

**Image:**  
*Zoomed In View Section A.a*

# Semester II

## My Design

David Boles

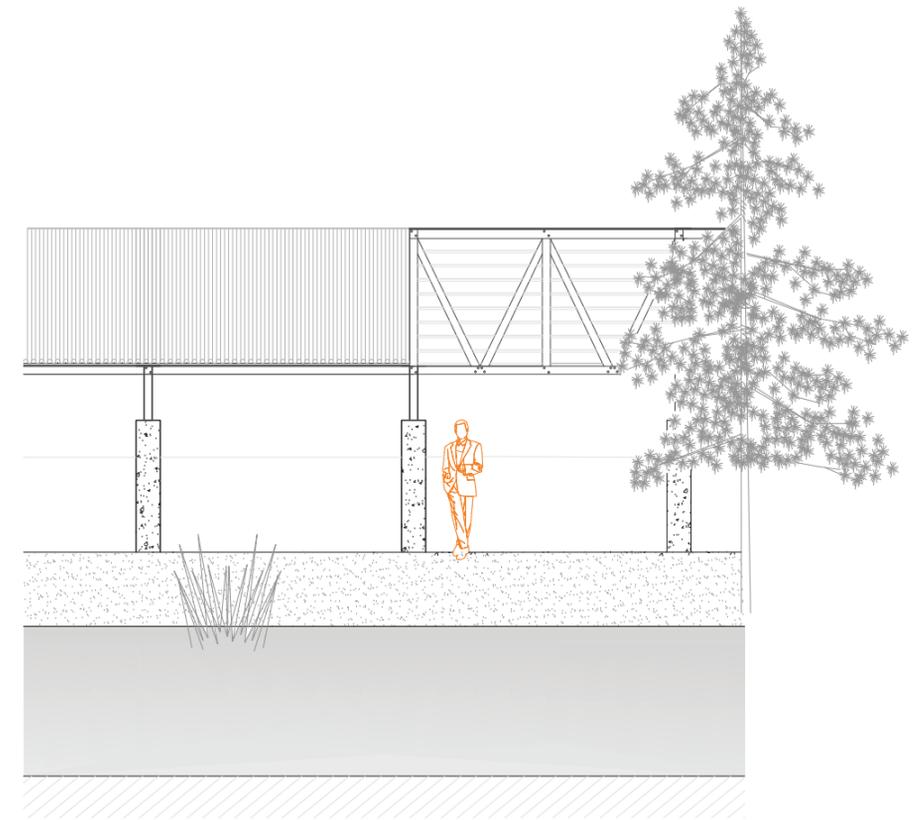
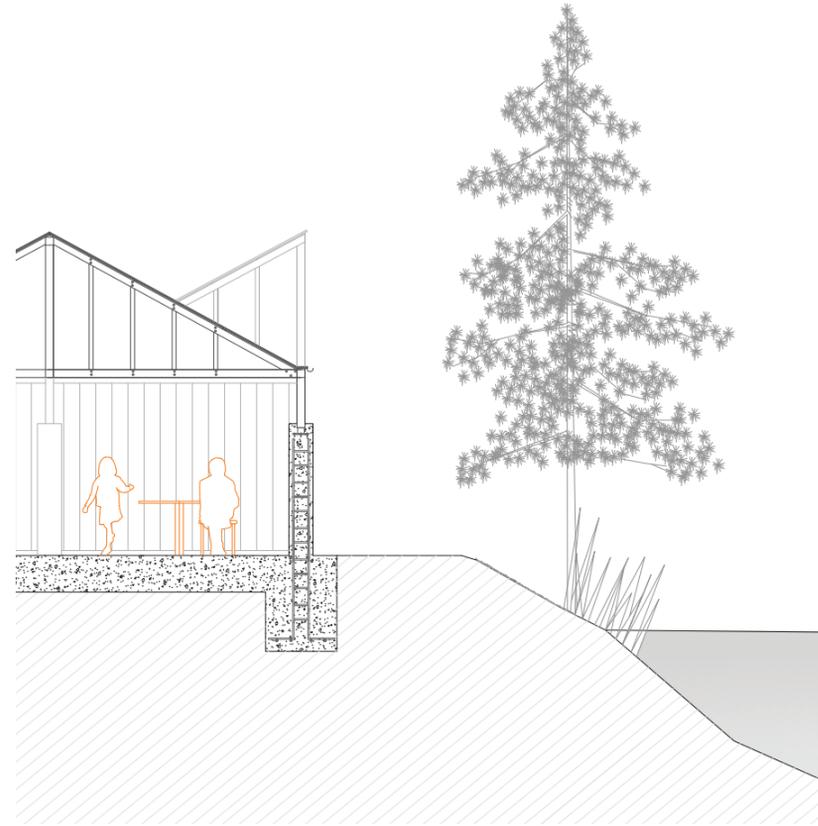


**Image:**  
*Zoomed In View Section C.c*

## Semester II

### My Design

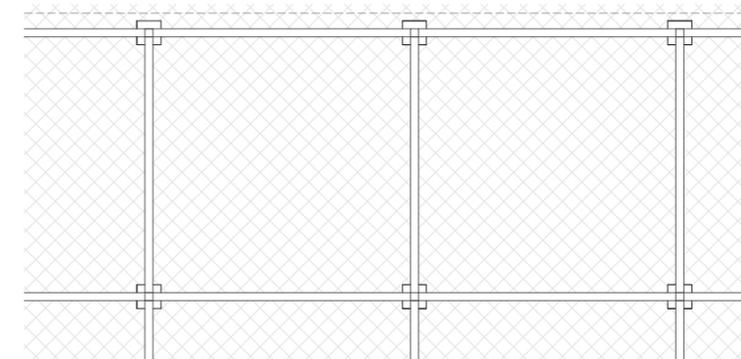
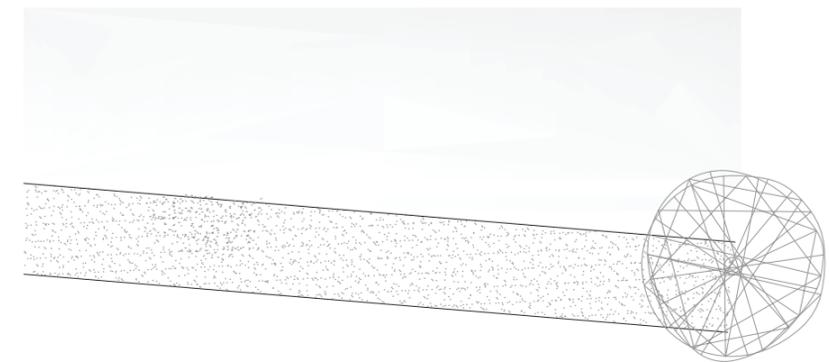
David Boles



- Steel Self Drilling Screw M5.5 x 38mm
- Gray Bitumen Corrugated Roofing sheet 2000x930x-2.2mm
- Roofing Underlay
- Timber Roof Batten 50x25mm
- Timber Joists 400x400mm

- M16 Threaded Rod
- B2P Dog Tooth Washer
- M16 Hex Nut
- Timber vertical and Horizontal Memebers 400x400mm
- Irish Sitka Spruce

- Irish Sitka Spruce (supplied by Glenfort Sawmill Ltd)
- Recessed Metal Socket Joint Attach to Timber
- Cast In-situ Pillar 800x800mm
- 22mm Steel Rebar
- Concrete Slab 300x300mm Salt Finish

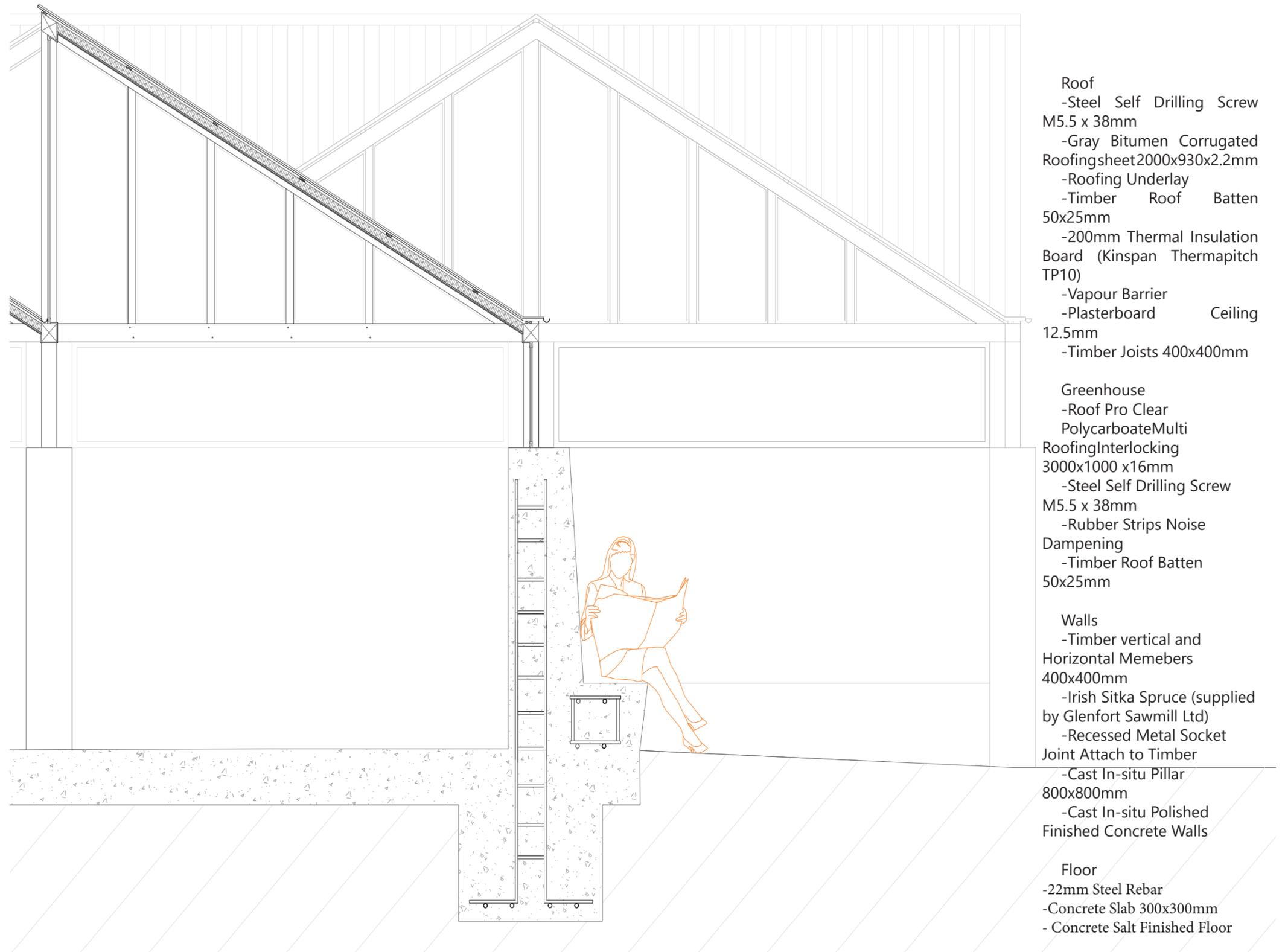


**Image:**  
Sectional Detail Close Up Elevation  
And Plan

## Semester II

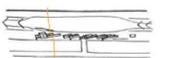
### My Design

David Boles



### Image:

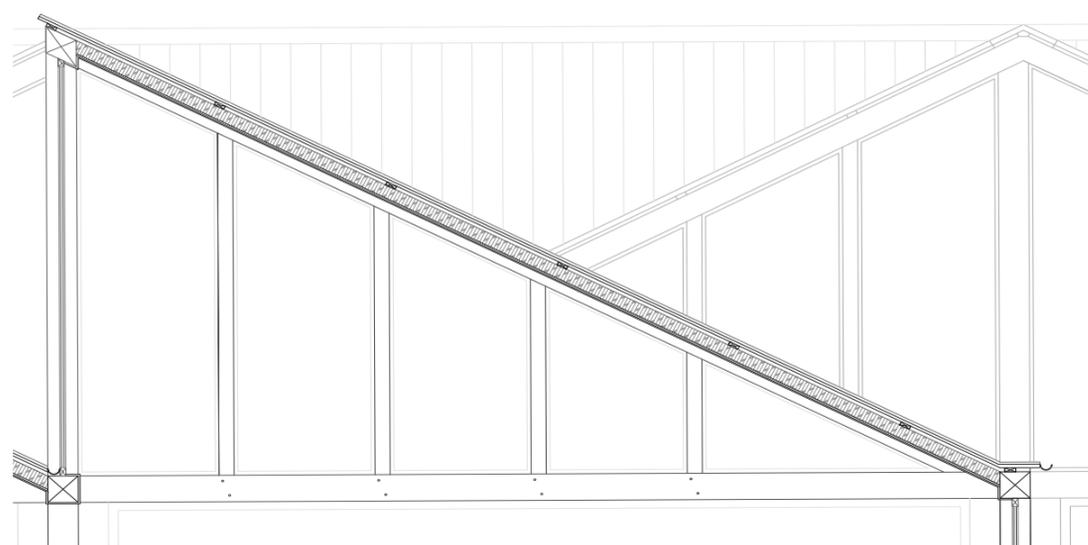
Close Up Detailed Section 1:20



## Semester II

### My Design

David Boles



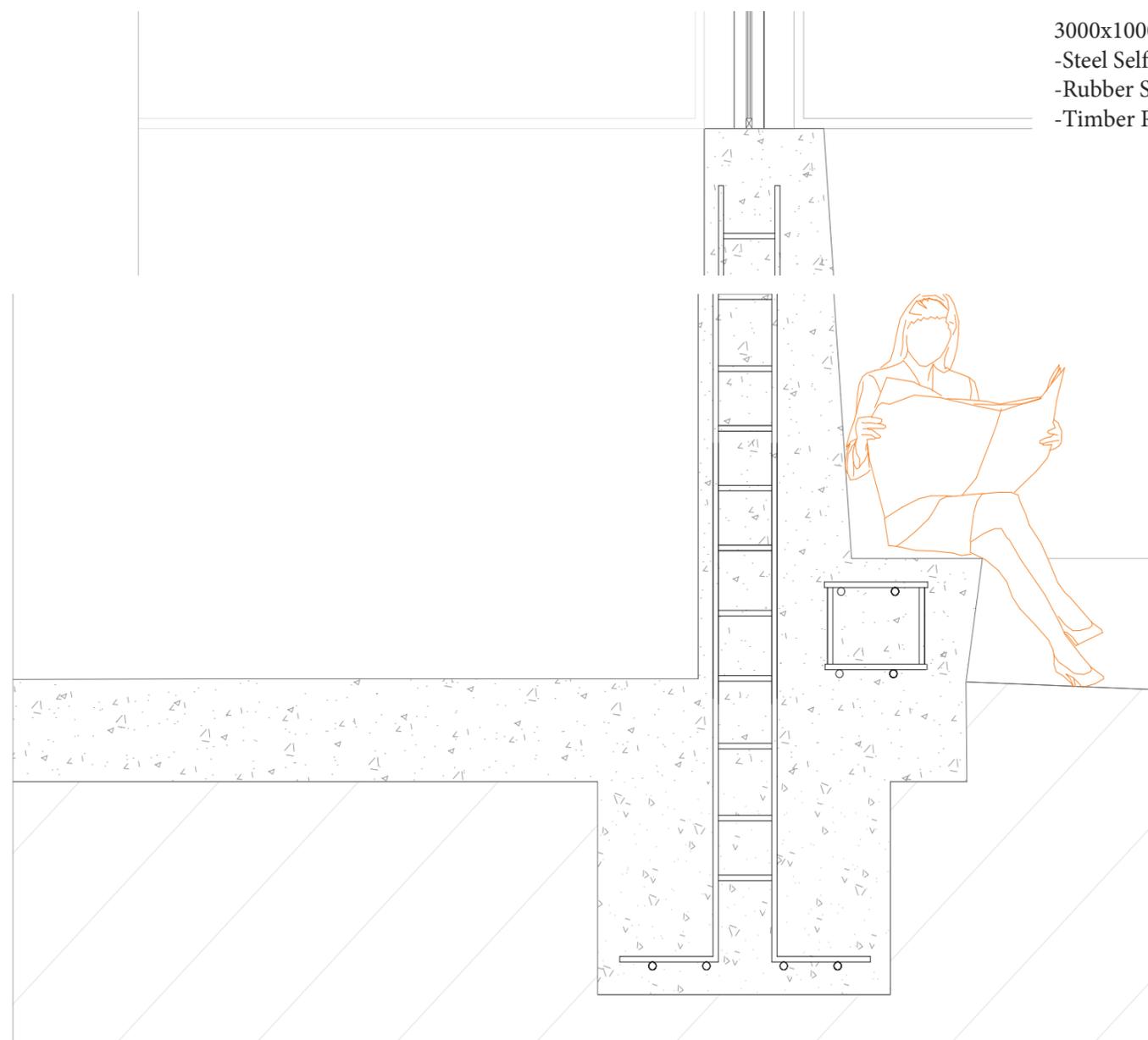
### Roof

- Steel Self Drilling Screw M5.5 x 38mm
- Gray Bitumen Corrugated Roofing sheet 2000x930x2.2mm
- Roofing Underlay
- Timber Roof Batten 50x25mm
- 200mm Thermal Insulation Board (Kinspan Thermapitch TP10)
- Vapour Barrier
- Plasterboard Ceiling 12.5mm
- Timber Joists 400x400mm

### Greenhouse

- Roof Pro Clear Polycarbonate Multi Roofing Interlocking

- 3000x1000 x16mm
- Steel Self Drilling Screw M5.5 x 38mm
- Rubber Strips Noise Dampening
- Timber Roof Batten 50x25mm



### Walls

- Timber vertical and Horizontal Memembers 400x400mm
- Irish Sitka Spruce (supplied by Glenfort Sawmill Ltd)
- Recessed Metal Socket Joint Attach to Timber
- Cast In-situ Pillar 800x800mm
- Cast In-situ Polished Finished Concrete Walls

### Floor

- 22mm Steel Rebar
- Concrete Slab 300x300mm
- Concrete Salt Finished Floor

### Image:

Close Up Detailed Section 1:20

## Semester II

### Vision Of The Future Royal Canal

## David Boles The Future Of The Royal Canal

It has immense potential moving forward for the future. There is an opportunity for the expansion of the project to take over other existing fringe sites within Dublin and its greater area. However, there is also the opportunity for it to stretch as far as Longford on the Royal Canals waterways. Each village could potentially have their own greenhouse along the route supplying locally and then also working towards supplying nationally. Operating with one larger food market within the capital of Dublin. Each greenhouse would be set up with the same ideals of reintroducing people to nature. It would also provide the opportunity to form strong community links by working alongside local county councils and chambers of commerce to help rejuvenate struggling rural communities. It would have similarities to historical Ireland where everyone knows their neighbour and they are always available to lend a hand where possible. It could potentially serve as a way of re-linking the younger generation of rural Ireland to each other.

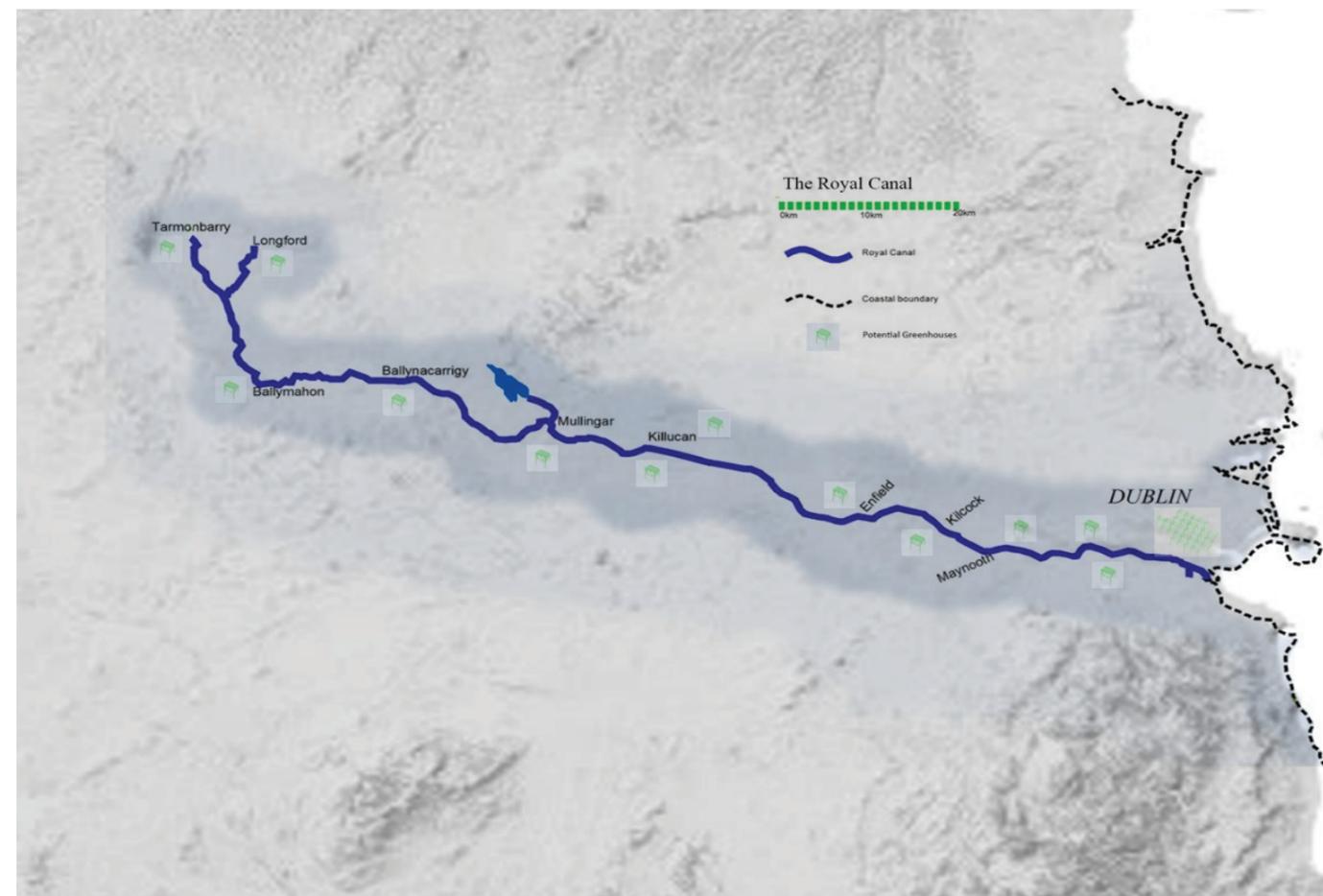
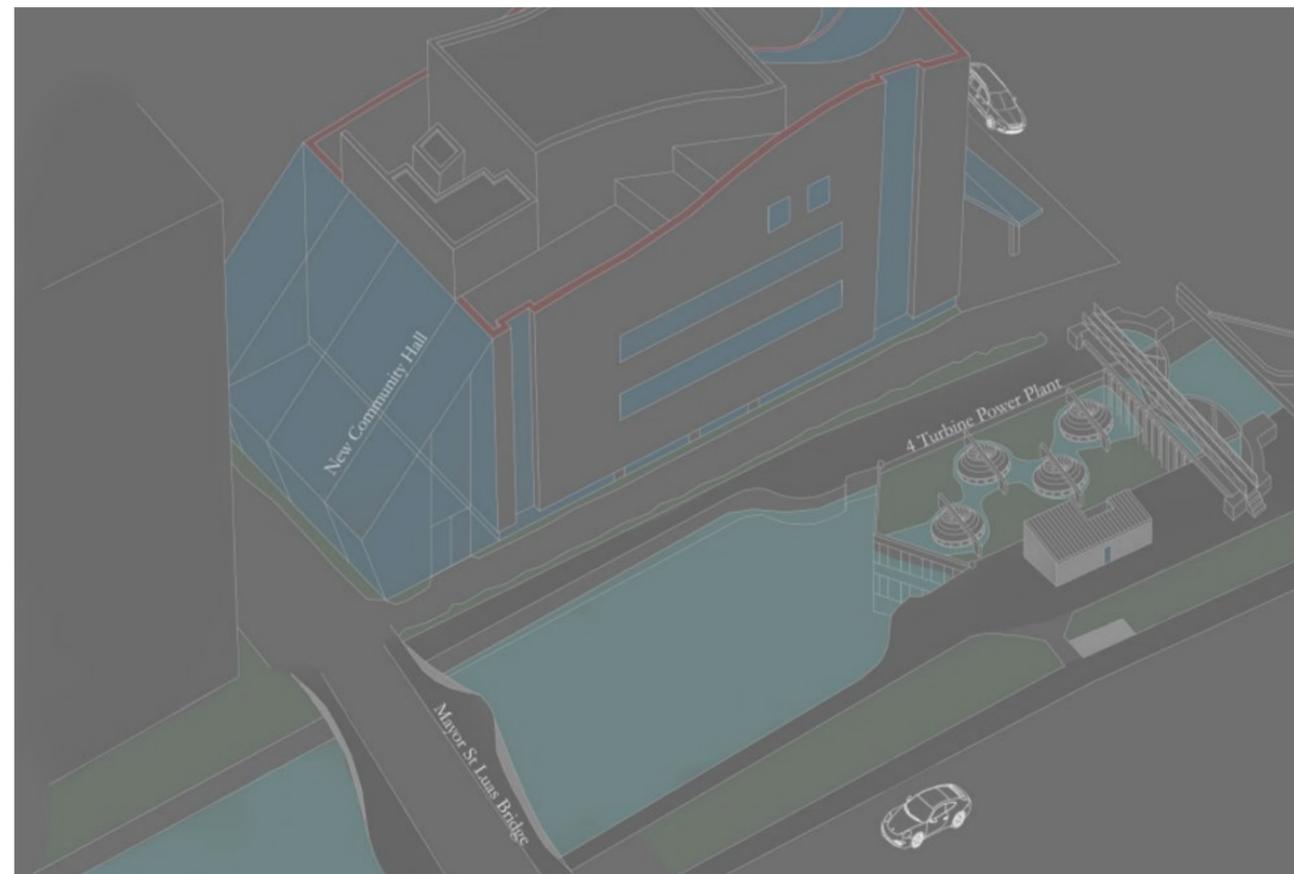
The later refers to my earlier image created at the start of semester I where, the potential for the disused canal locks stretching from the National Convention Centre back along the canal were noticed. They have potential as a power generating station using water flow turbines which could house, above ground community gardening allotments. This would coincide with the existing canals rich history of supplying the country with food during World War II.

#### Top:

*Opportunity for Turbine Generation Development in the Existing Locks*

#### Bottom:

*Opportunity of Expansion Further Along the Canal with Multiple Food Co-Ops Using the Existing Canal*



# RE-ENERGISING THE ROYAL CANAL

## Semester II

### Conclusion

## David Boles

The thesis idea is one that has been already highlighted as essential. The idea that people need nature more than nature needs people. In the last year the Global pandemic took over and peoples lives were inverted leading them to take time and enjoy their surroundings. This has really shown the mental health gains from spending even just a short amount of time each day outdoors. It has so many positive side effects too many to even begin to list. The site is a strong location for my intended development. It has a strong relation to its surrounding area. My project has a similar relationship to the existing houses to the south of it not obstructing or inhibiting there already quaint locations. If anything it opens up the rear of them more due to the trimming required to existing planting which is currently overgrown. The way I have explored the site with relations to the Canal and the architecture which already exists in the form of barges could be potentially explored deeper. It would be a potentially interesting exploration with relation to the scale of my building, in comparison to the scale of a traditional narrowboat. Sites like the Royal Canal of the NEIC serve as a way of connecting communities, linking people to nature, educating people through forward thinking ways, hubs for innovation and exemplifying moves towards mitigating climate changing effects on our environment. Using a site along the Royal canal would connect communities along that stretch of the north city. This side of the city is already rich with community driven projects, for helping the homeless, drug addiction, tidy towns, Mud Islands Community Garden, and multiple youth programmes before you even start to look towards the sporting culture near the likes of Croke Park stadium which sits on the banks of the Royal Canal.

The brief is challenged to see how two proven organisations can successfully work together and could create an interesting development for the local community to get behind. Jamies Farm would have the positive gain of more volunteers from the local area who can also relate to the children being educated in the facility giving it a real grounding to the real life applications after they have left the programme. The Food Co-op is already a heavily based community run programme. It has had a great success in Kilmainham already. An alternative approach to its expansion could see it grow and develop beyond its existing constraints. Construction of the shemes structural timbers members could be manufacture out of standard and readily available materials which could be bought in the local hardware shop. This means that it could be built entirely by the community with less need for qualified skilled craftsmen. The other challenge to the project is security to the designed areas. The challenge of public and private space is decided through the use of multiple courtyards which could potentially create a very harsh façade to the canals edge. The NEIC already struggles with anti-social behavior in certain areas. This draws attention to the need for more secure courtyards and closed off marketpace areas when they are not in use. The other topic of debate is that the entire project could possibly be relocated to another site within the current format. This would be possible for greenhouses to be rolled out along the canal. However they're orientation could possibly be changed in order to maxmise usable space on the site and also to avoid creating problematic corners which could potentially encourage antisocial behaviour in theyre nooks and crannies.

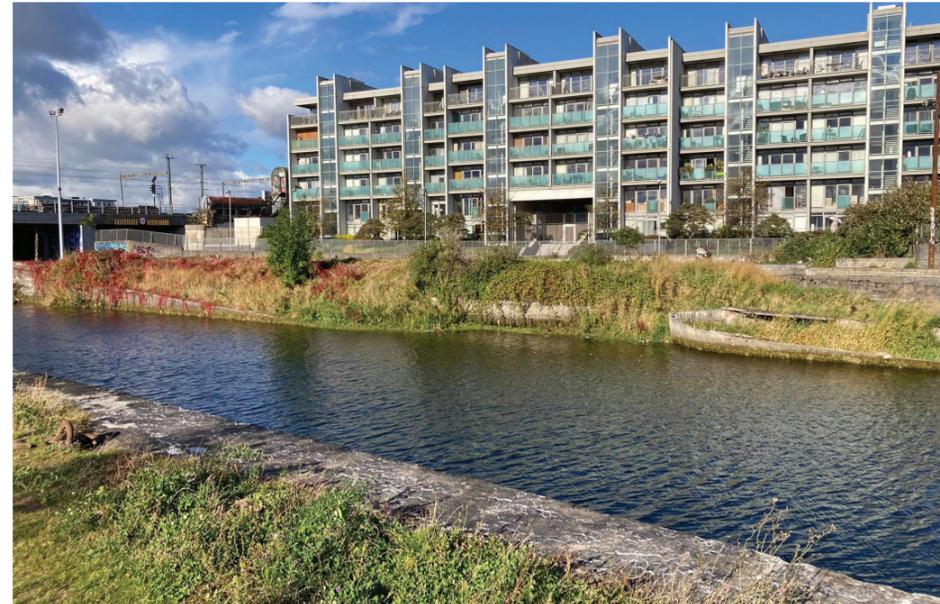
# RE-ENERGISING THE ROYAL CANAL

## Semester II

### Conclusion

David Boles

The project is developing and still has potential to develop even further past the small parallel running stretch of the canal around St. Ignatius Road. The Canal is a place of energy on which we should look to embrace, harness and also to try and embody this as it has great potential moving forward to create a great opportunity to make this mass of water monumental to the NEIC and also to the city of Dublin. It is a green corridor, to the current urban environment one, which we should begin to exploit in a positive way to allow nature to help and benefit us. The Canal banks have played such an important role in the cities development previously. It has seen us through the beginning and end of industrial revolutions, proved fruitful in wartime and even to provide a home to the homeless when in search of refuge. The Canal and its nature can be so useful to use but only if we nurture it. The idea of nurturing a seed to grow is a timely test of someone's caring ability. This is something we should begin to instill to our future generations.



There is an underutilised asset here which has so much opportunity to be improved upon. The natural eco-systems and other elements of the NEIC can really prove to have many great benefits on the daily lives of its inhabitants. We as architects moving forward need to recognise and start to identify with how powerful nature is. Nature has the power to heal itself and to heal us, but we have to aid it for this to work. Below is an image I captured from my first visit on site, walking around the NEIC. The scene is located just south of Croke Park Stadium along the Banks of the Royal Canal. Where two old concrete barges are slowly being reclaimed by nature after being left and disregarded by man. I think this image captures the amount of power which nature has. We should not let nature's power completely take over. Nor should we completely take over nature with our urban sprawling. This idea where one takes over the other is not good. Instead, the two should coincide to create opportunities for people to interact more with, rather than just marvel at from the other side of the canal in this example. Again, relating back to my initial opening quote: "When Architects Express ideas, they often do so in a way that draws upon and requires involvement in the deployment of vast material and human resources." (Fitz et al., 2019) Our new built architecture should be driven by nature and community together, rather than the ever-familiar arm wrestle, of untouched trees and grass vs overly pruned examples exhibited in most modern urban areas leaving them over built and further removed from the natural landscape. We crave these places for their mystery and familiarities at the same time. The realization that we are co-dependent on each other is coming to fruition in more and more walks of human life. We need to embrace nature and stop trying to out master it with the "deployment of vast materials" (Fitz et al., 2019) . We have our own human resources like our innovative and social skills coupled with humans nurturing nature. These if utilized right can help to rejuvenate nature and ease climate change whilst also creating a better environment for all human beings to grow old in. It will leave the world in a better, smarter, and safer place for the next generation who follow after us

# RE-ENERGISING THE ROYAL CANAL

## Semester II

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David Boles

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