

GARDEN COMMUNITY



ELLIE BROOKS

FARA NUR

GRACE TAYLOR

JUNAL BARBOZA

NATALIA GRACHEVA

NEFELI PAPAGEOGIOU

OLLIE MATHEWS

SAM PHILLIPS



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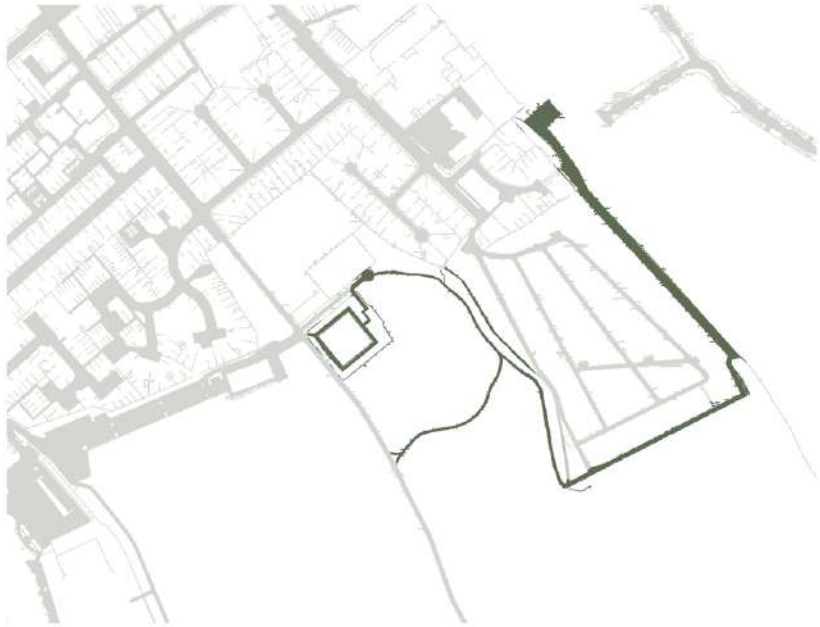
SITE CONTEXT



Observation into natural interest in surrounding site



Plan of immediate site: 1:5000



Main roads connecting site to Cardiff City



Routes connecting site to the paper mill development

Our aim is to connect the site with the larger context of Ely, and central Cardiff. The above maps display the current routes. The adjacent map observes the local settlements neighbouring site as well as the existing allotments and river to the right. The site is highlighted in red.



Ely is built upon its Village Garden principles.

A post war movement, with a focus on wellbeing, that aimed to bring together our modern, urban homes with nature - our first home.

A succesful urban concept that has defined Ely’s physical, and social success over the past 100 years.

However, we believe that these founding sentiments are being forgotten.

A modern, virtual existence and the demolition of the paper mill represents lost value - and thus lost values towards a sustainable community built on the idea of a Garden.

We believe that we must rekindle the founding principles of Ely. To use the past to look to the future.

To bring nature back into our modern lives, in a space of physical connection, growth and wellbeing.

To reinspire value through good food, good exercise and good laughs.



The settlements adjacent to site display the typologies of the gardens and the in-between external spaces. The forms establishing territorial boundaries is explored within the design. The familiarity of the local vernacular is investigated to encourage a sense of belonging and identity.



Existing users of the site

New users of the site

Following meetings with members of the community and current users of the site, we identified some key aspects to focus on to get the best out of the community. Alongside new target users who are currently on the edges of the community who the current users wish to welcome in. This enabled us to gather our concept and a programme of events and facilities to include.

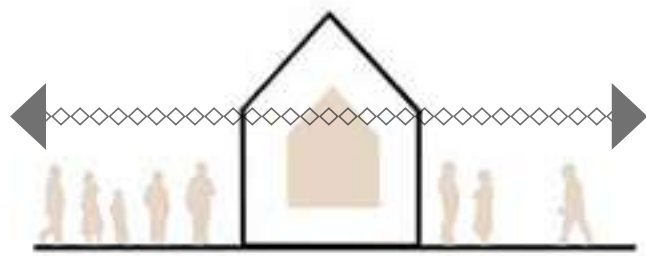
Below is a master-list of the events and facilities proposed as a result of this research:

Bowls, Nursery, Garden, Allotments, Caring for the environment, Enjoying the garden, Kitchen, Preparing food for cafe, Children's cooking classes, Adult cooking classes, Diabetic cooking classes, Cooking using produce grown, Café, Sports, Barbeque Event, Food Market, Sunday Lunch, Bowlers Sunday Tea, Arts Showcase, Bee Care, Wildlife Walks, Dog Training, Water Features, Support Schemes, GP drop in, Social Services links, Art therapy, Garden therapy, Dewis Cymru, Dance Classes, Mother and Baby Classes, Elderly Support, Lunch/ Coffee Clubs, Care and Repair, Goldies Cymru, Creative Classes, Social Prescribing, Choirs, Music Groups, Aerobics, Gymnastics, Exercise Classes, Pilates, Zumba, Yoga, Places to sit and Gather, Vocational Job Talks, Community Built, Community Maintained

Network of Support

In order to help our project gain momentum, we have identified a number of existing organisations and clubs within the area to join up with, the goal of setting up mutual relationships of support to last, with the intention for our centre to host events by such groups. The creation of this network should allow members of the community to become more aware of activities and support on offer in Ely and Caerau. Some of these organisations are noted below.





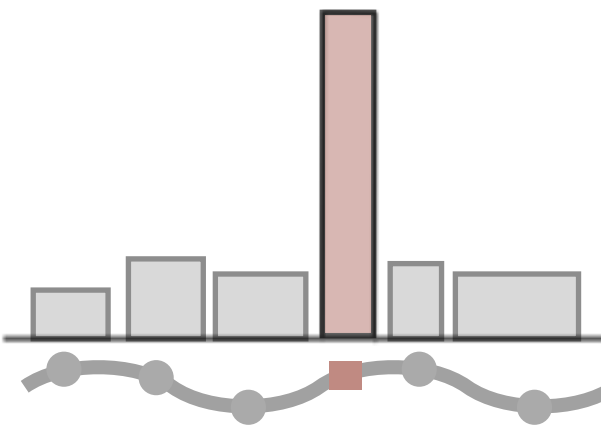
SENSE OF OWNERSHIP

The process and use of the building will belong to the people of Ely. Engaging right from construction , the facility will truly provide a sense of ownership and pride



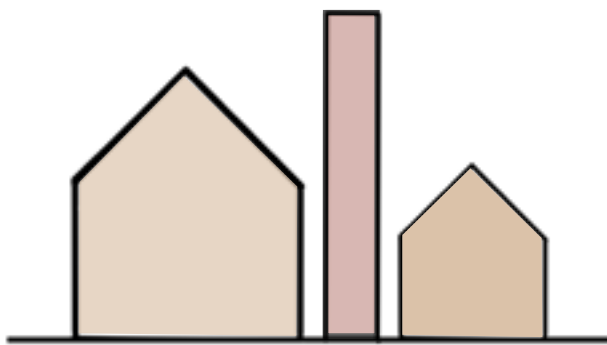
GARDEN COMMUNITY

The core conceptual theme within this scheme, the project aims to bring the community of Ely to intertwine through gardens and wildlife playfully but with sensitivity



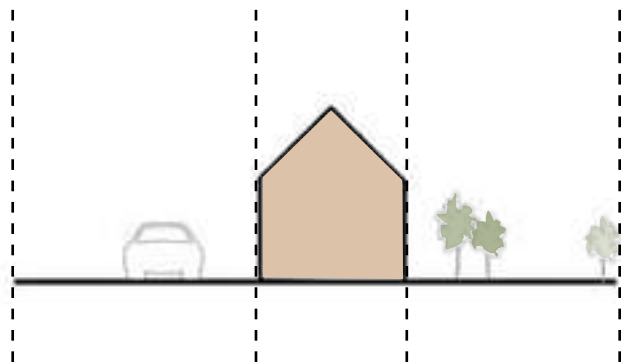
ELY TRAIL WAY-FINDER

An integration into the Ely trail, the chimney will provide a way-finder within the trail and to the wider community.



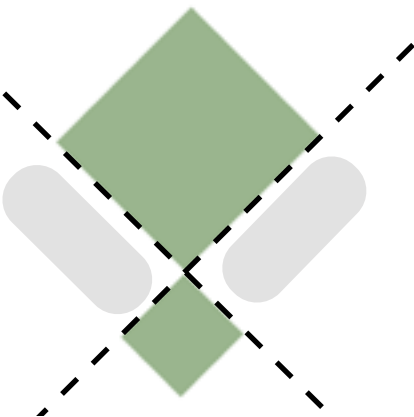
DOMESTIC TO CIVIC

The two distinct forms differentiate in scale, with the domestic extending the residential connection of Ely and civic to provide a new facility



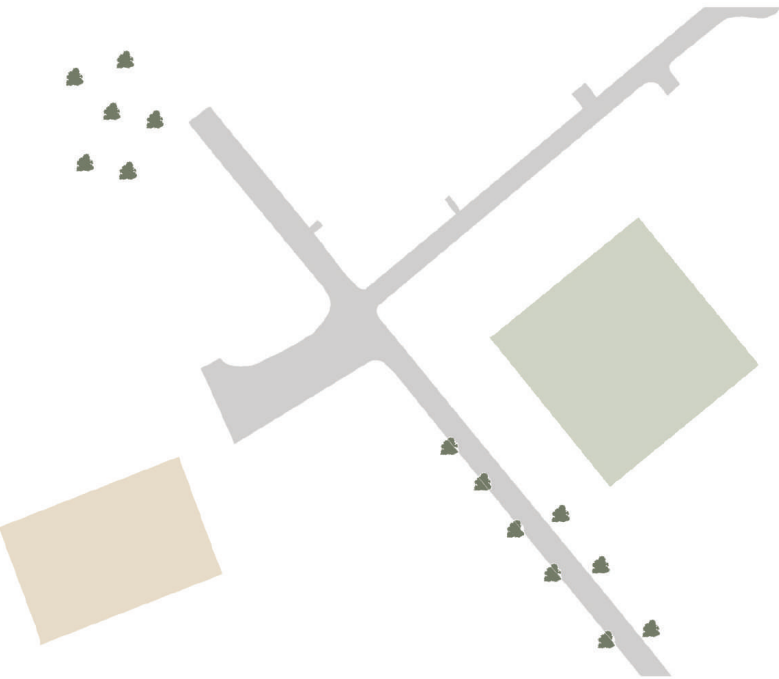
FRONT GARDEN, HOME, BACK GARDEN

The scheme provides users with three distinct moments of experience through the front garden, being within your home and your back garden

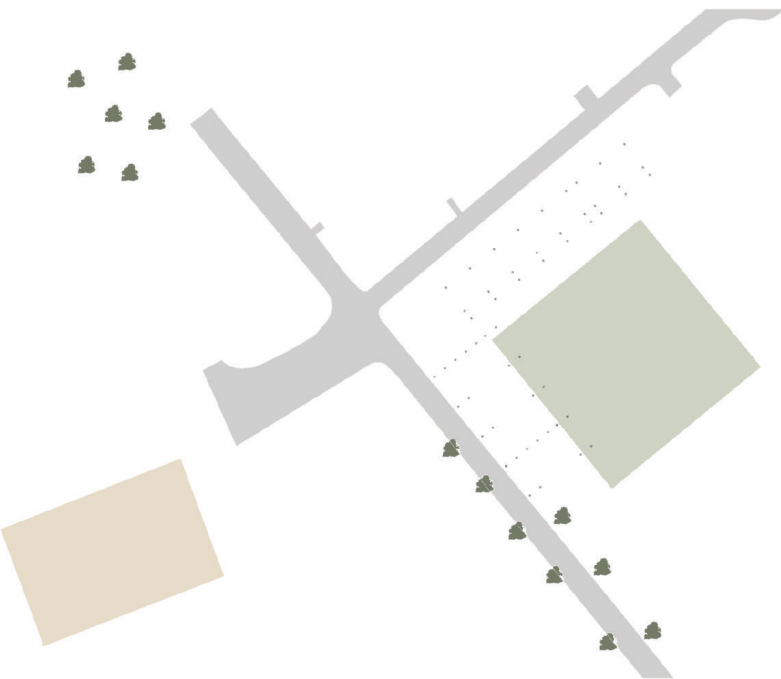


DEFINING THE CORNER

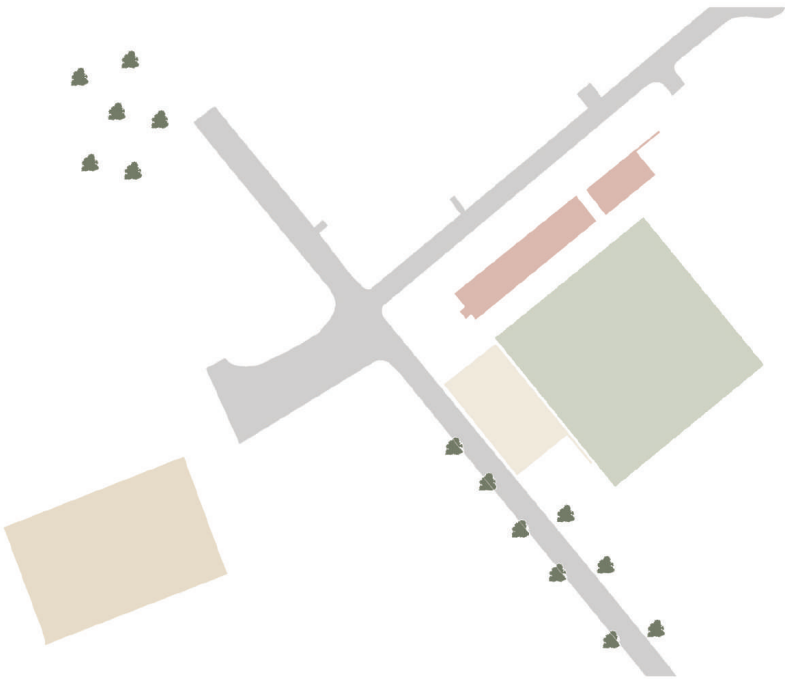
The orientation creates a natural corner to the site and therefore will be clearly defined to be the focal entry point to the facility.



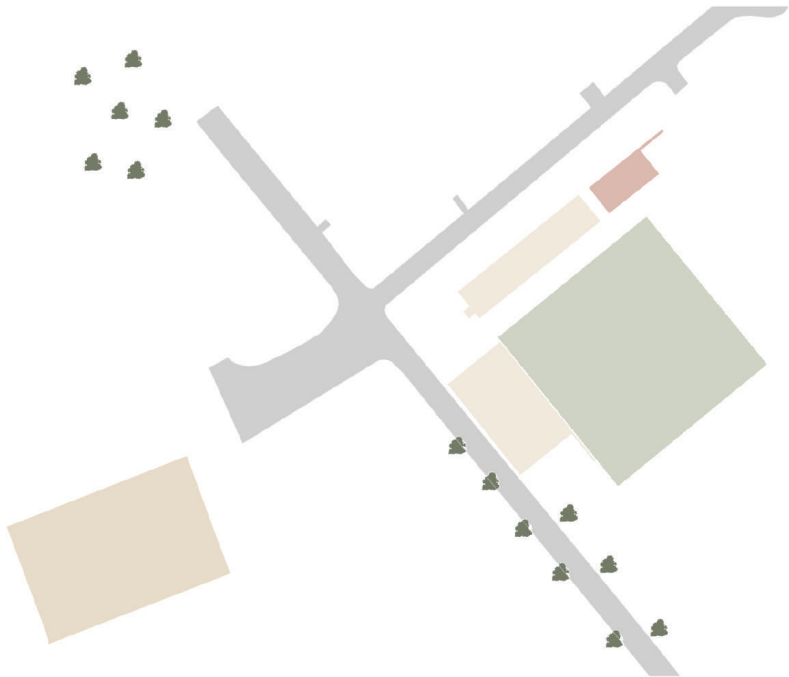
'The Street' - access & existing buildings



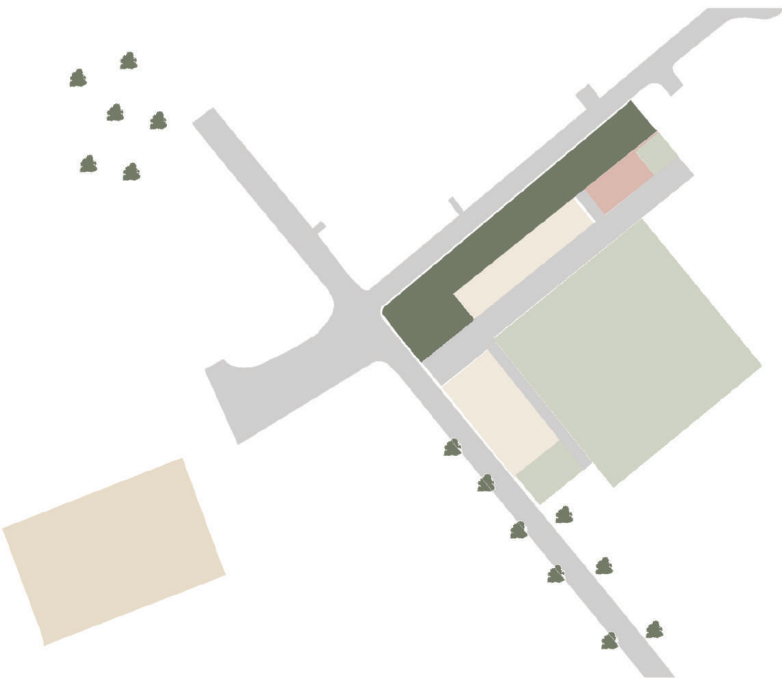
'Place Making' - setting out the structural grid



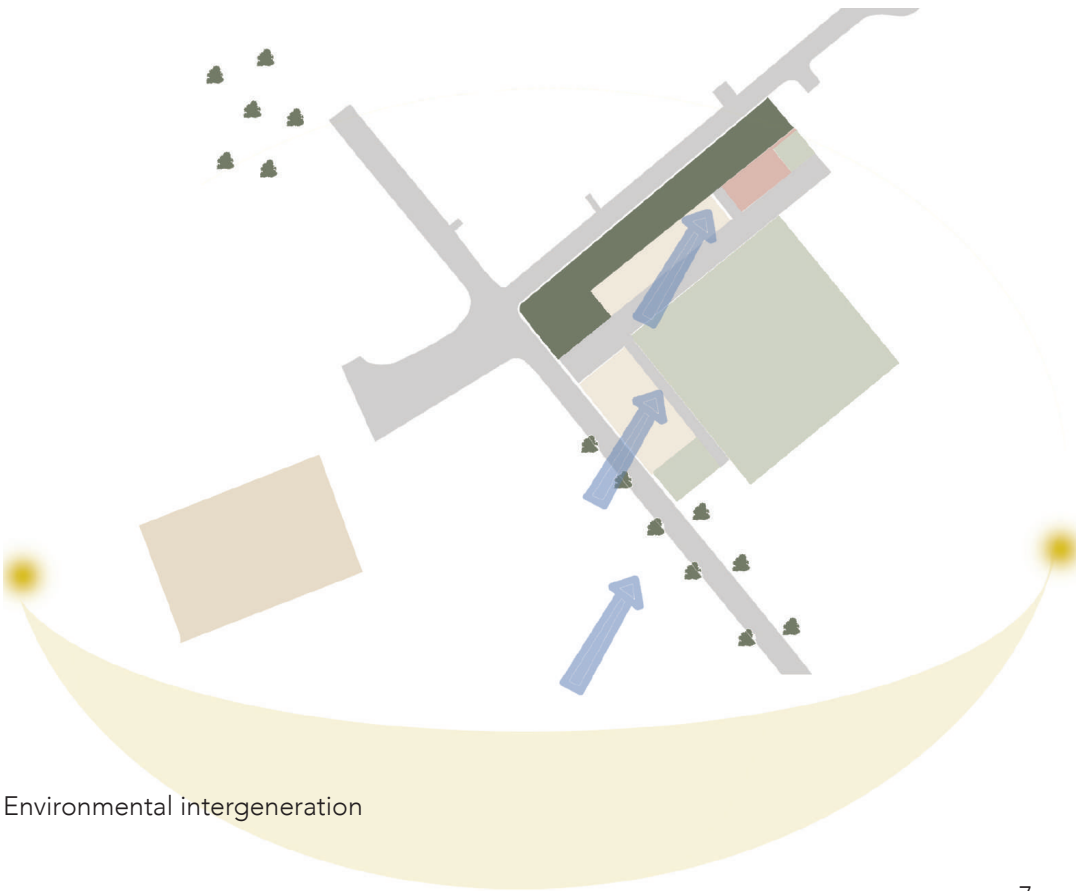
Domestic
Civic



Public
Private



Front Garden- public
Back Garden- private



Environmental intergeneration

MASSING DEVELOPMENT

Preliminary design: Mono-pitch unit for both civic and domestic

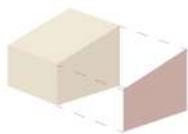
proposed building

strategic move

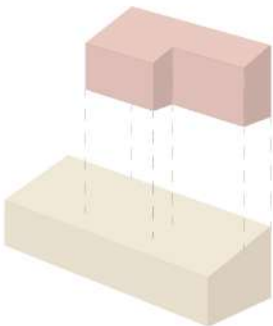
back garden



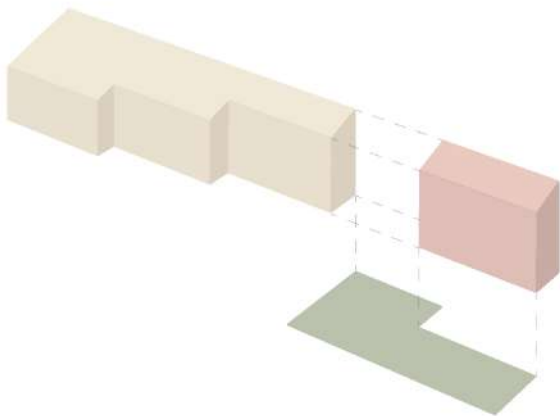
6 x 6m grid enclosing the dwelling



extending the unit for uses



allocating functions



private back garden for the nursery

Through exploring the program we furthered the design by examining appropriate scale to space. Allocating the 'house hold' functions and nursery to the domestic scale, and the community hall as the civic. The building protects the external garden space, the 'back gardens' are highlighted in green.

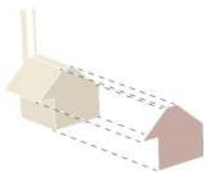
Developed design: Observing the local vernacular, with a large civic, small scale domestic and central chimney



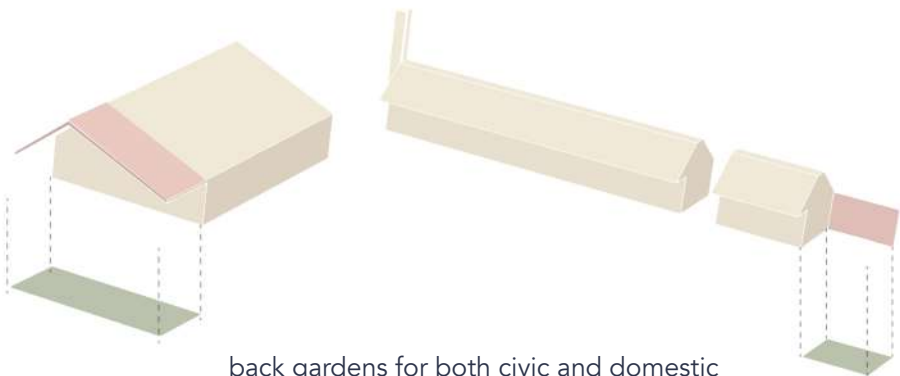
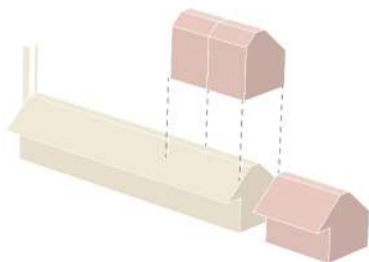
setting civic and domestic scale



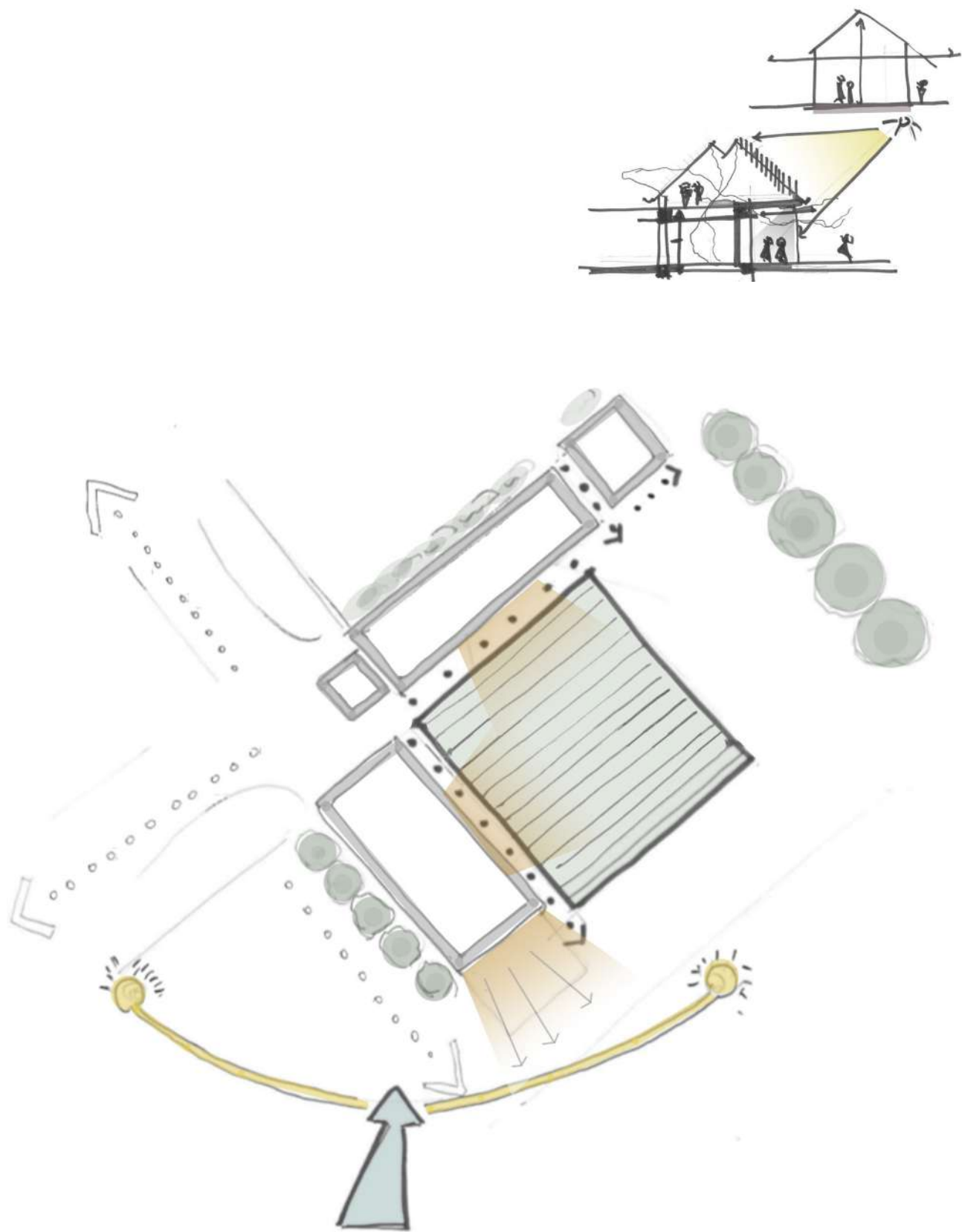
extending the 'house'



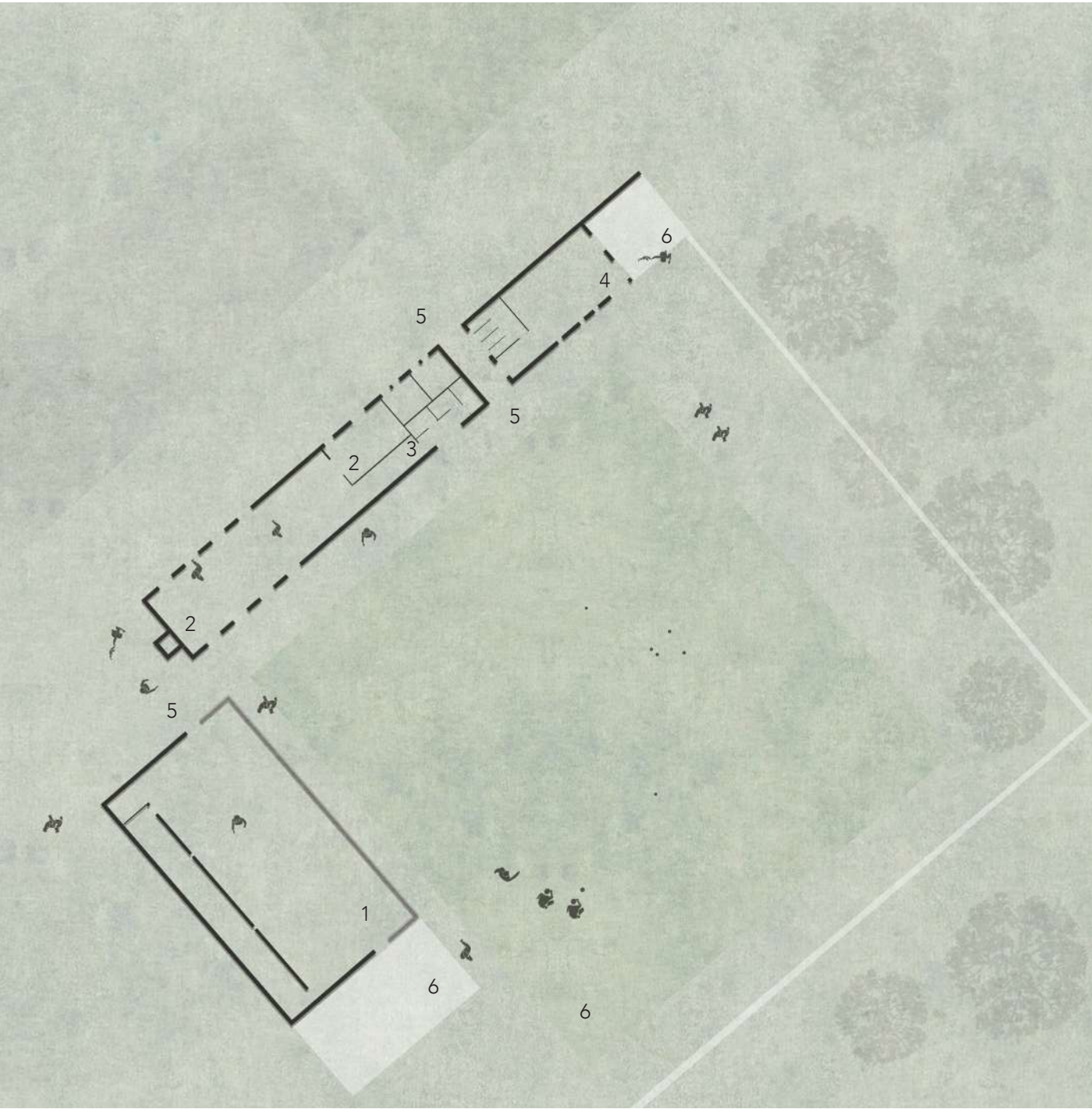
fitting out the dwelling: kitchen & nursery



back gardens for both civic and domestic



- The streets meet in the left hand corner of the site- The landmark chimney is situated central to the 'front garden' open public to the community
- The allotment is to the right of the bowling green allowing optimum sunlight
- The dwellings are placed around the perimeter of the site maximising natural light while the overhang roof provides shade in the summer

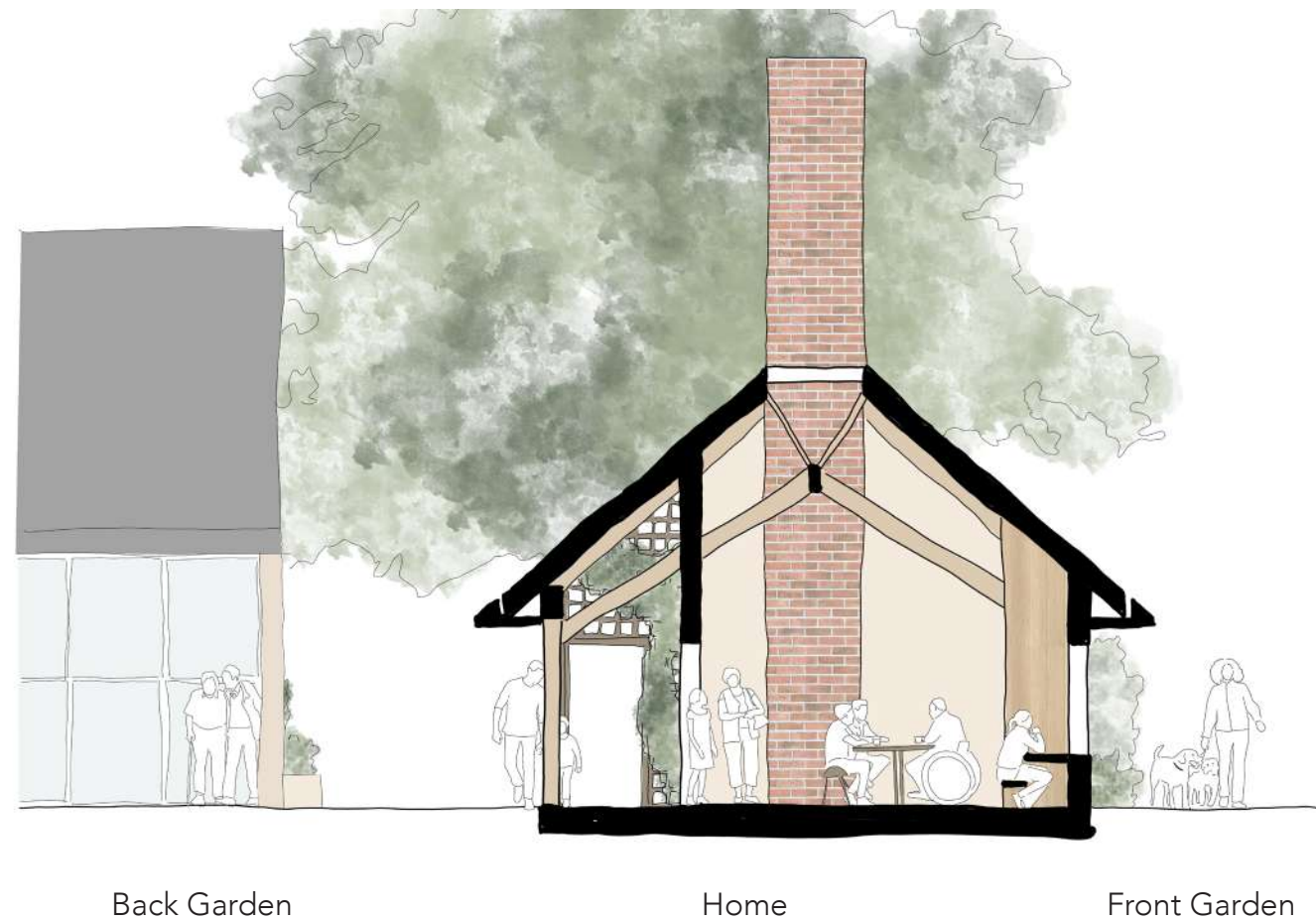


Plan Exploring Placing on Site 1:500

- 1) Civic- Community Hall
- 2) Domestic- Cafe & Kitchen
- 3) Domestic- Services & Small Hire Rooms
- 4) Domestic- Nursery
- 5) Front Garden
- 6) Back Garden



SECTIONS THROUGH THE SCHEME



Section Through The Cafe
1:100

Physical concept of the transformation of the domestic 'front garden, back garden, home' model.

Front Garden
Street between sports pitches and building. Landscaped to encourage passers by and maintain a familiarity of the domestic street fronts surrounding.

Home
Facilities for the community to come together. Flexible spaces for users to inhabit how they see fit, secure but available to all. Natural and familiar materials.

Back Garden
Bowls and the embodiment of the growing community. A safe space for all members of the community to express themselves, learn and share skills.



Section Through The Civic
1:200





Front Garden Elevation A
1:200

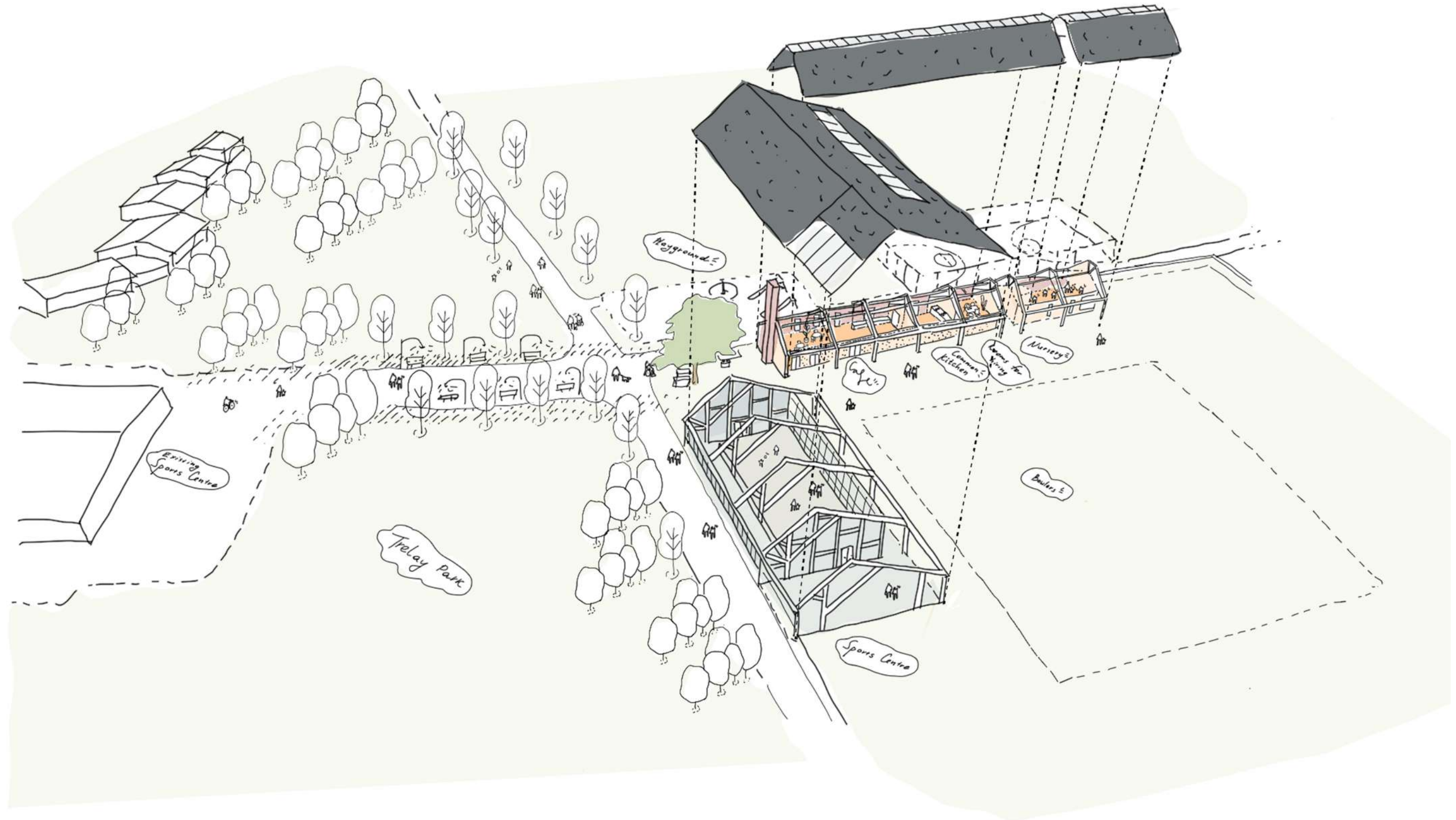


Front Garden Elevation B
1:200

AXONOMETRIC VIEW OF THE SCHEME

A visual representation of design approach to immediate context, observing the connection between the cafe and playground, and the existing sports centre with the proposed. A key move within the design was the open corner, as this created a welcoming point to the community. In order to allow a soft front while retaining site security, we investigated the formation of the street- and the urban approaches used; these being:

- A narrowing of the path into site: created through the building placing
- A clear route: formed from herringbone brick
- A well lit area
- Natural surveillance: As the chimney is a gathering point it would provide high density of people in the area
- As well as the building belonging to the community and their identity to encourage a sense of pride and care

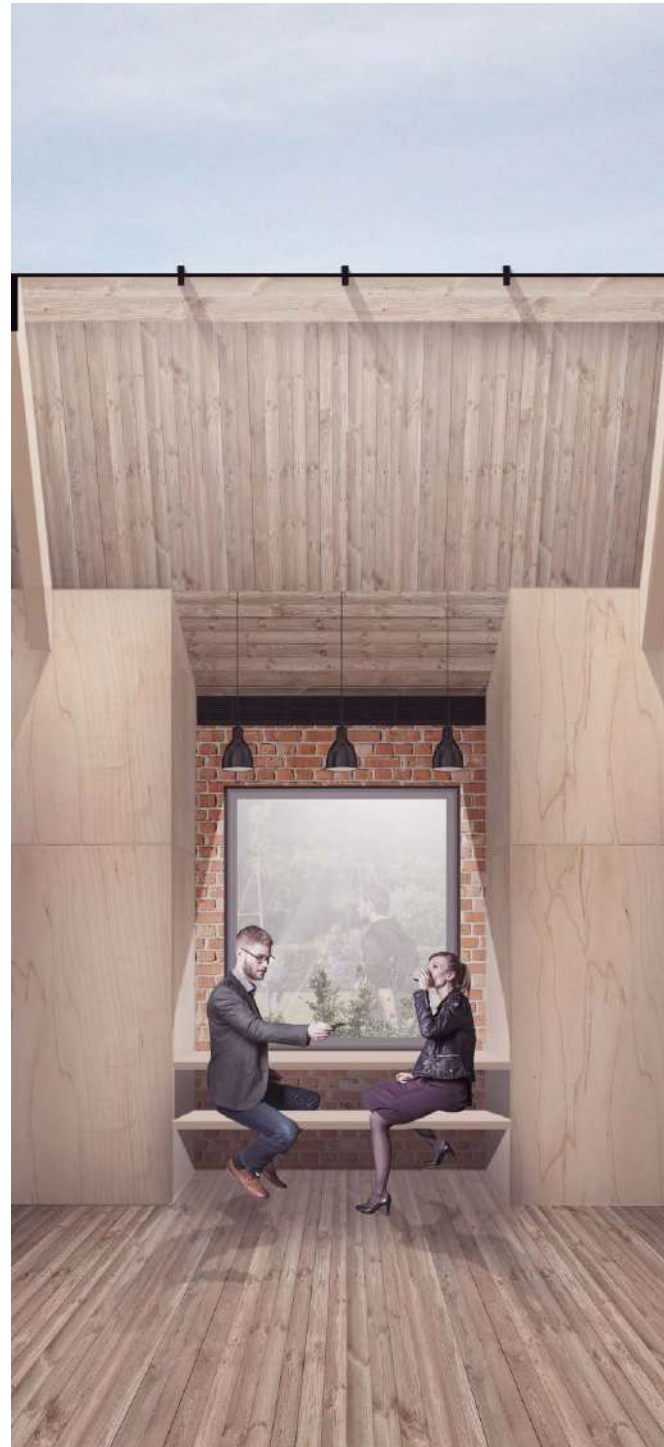




FRONT GARDEN

Front Garden is about formality, impression, rythm and control.

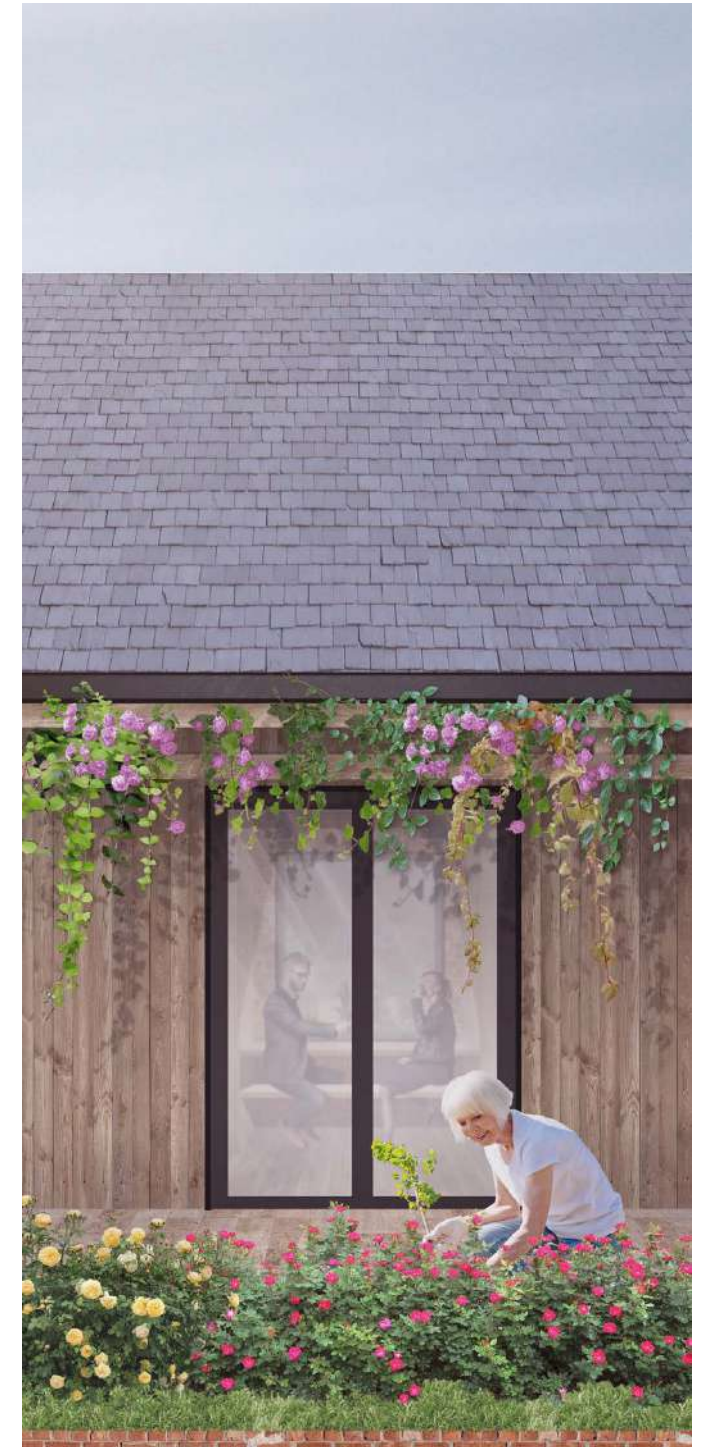
Masonry defines edge and pace. The greenery remains uniform and rigid. A pitched tile roof heightens to create scale, and a familiar homely aesthetic.



HOME

Home is about ownership, and a comfortableness.

Small niches carve themselves into the thick protective wall, overlooking external play spaces. Timber frames the space with a sensitive embrace. And the lofty, naturally lit/ ventilated internal spaces open up with a sense of pride.



BACK GARDEN

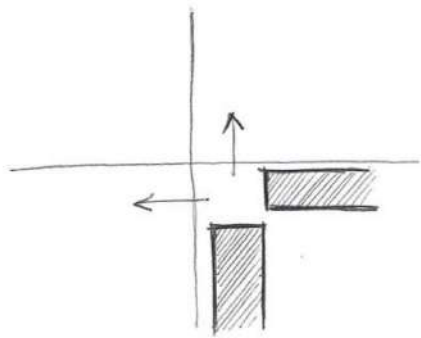
Back Garden is about informality, organicity and connection.

The building opens up with a covered external walkway/ pergola, overlooking the central bowling green. Colour and aroma frame the space, providing gentle external spaces to grow, and relax.

Sports Day Barbeque

The western corner of the building opens up to the adjacent play spaces, with an external cooking venue - reinforcing Trelai park as a host for a community day of celebration.

The chimney square will mark a key nodal point, where urban and natural environments meet. Welcoming in passersby for a coffee before starting their day of activity.



Harvest Festival

An annual event whereby the growth of both food and local learning consolidate, as many come to share in the abundance at the home from home.



Summer Salad - Lettuce | Tomato | Edible Flowers



Roast Dinner - Carrot | Broccoli | Potato



Pudding - Apple | Pear | Berries

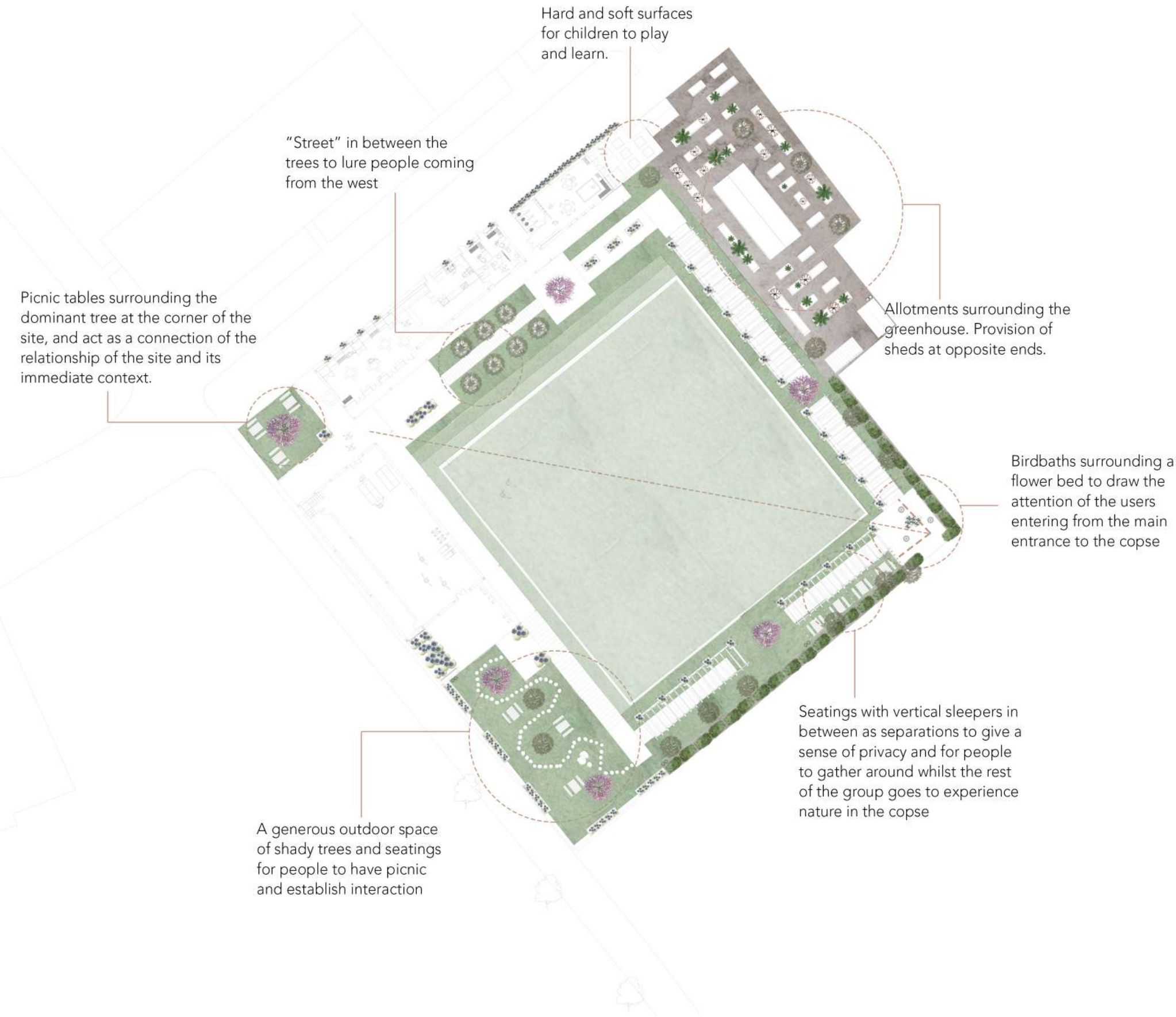


Family Bowls

The scheme proposes to keep, and celebrate the history of the site into maintaining a new, accessible family activity - bowls. The central focus to a hub of Good Food, Good Exercise, and Good Laughs.

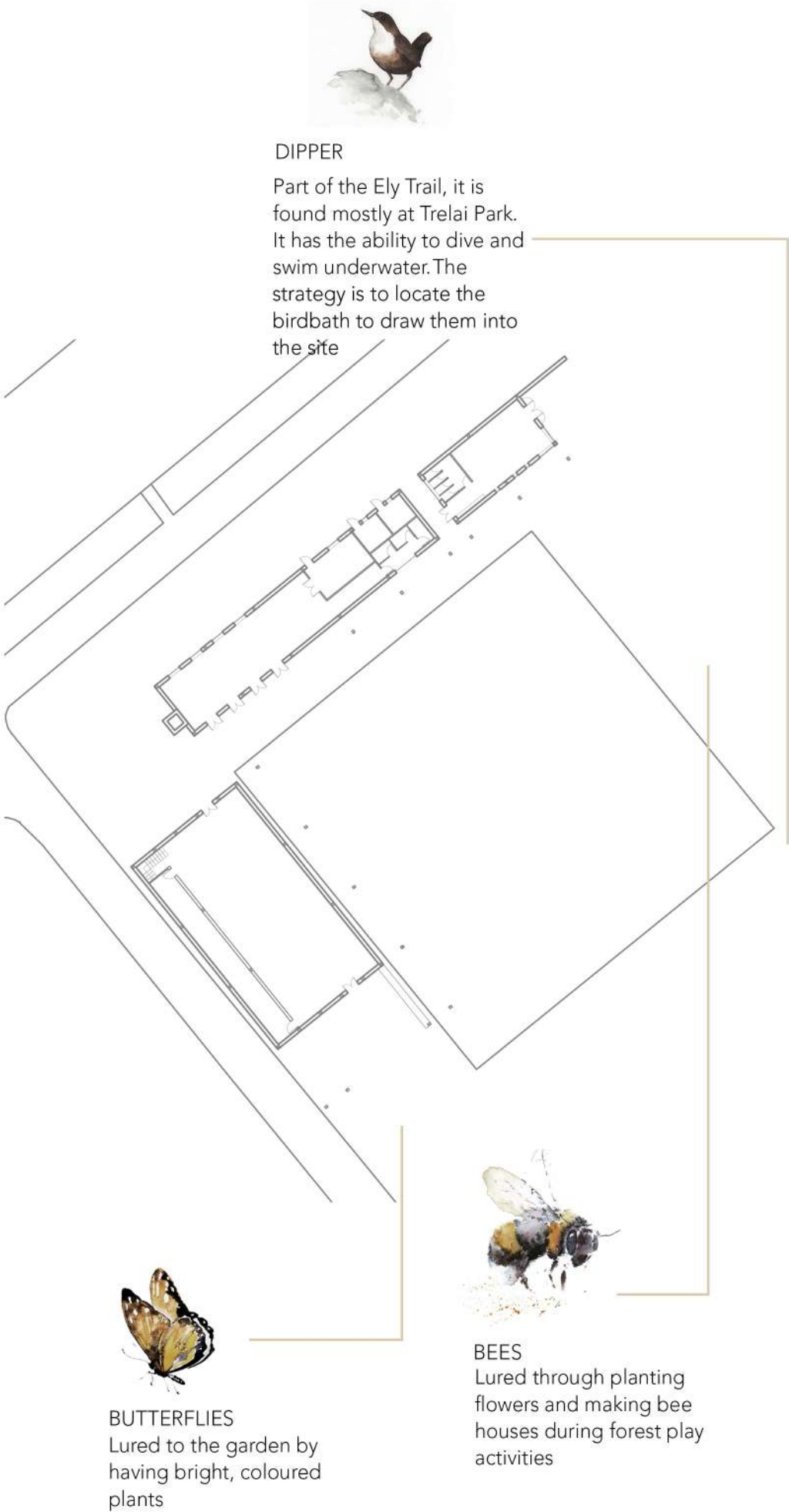
A defining move which will reverse the historic, divisive perceptions of bowls within Ely, and in turn, better unite all its peoples.



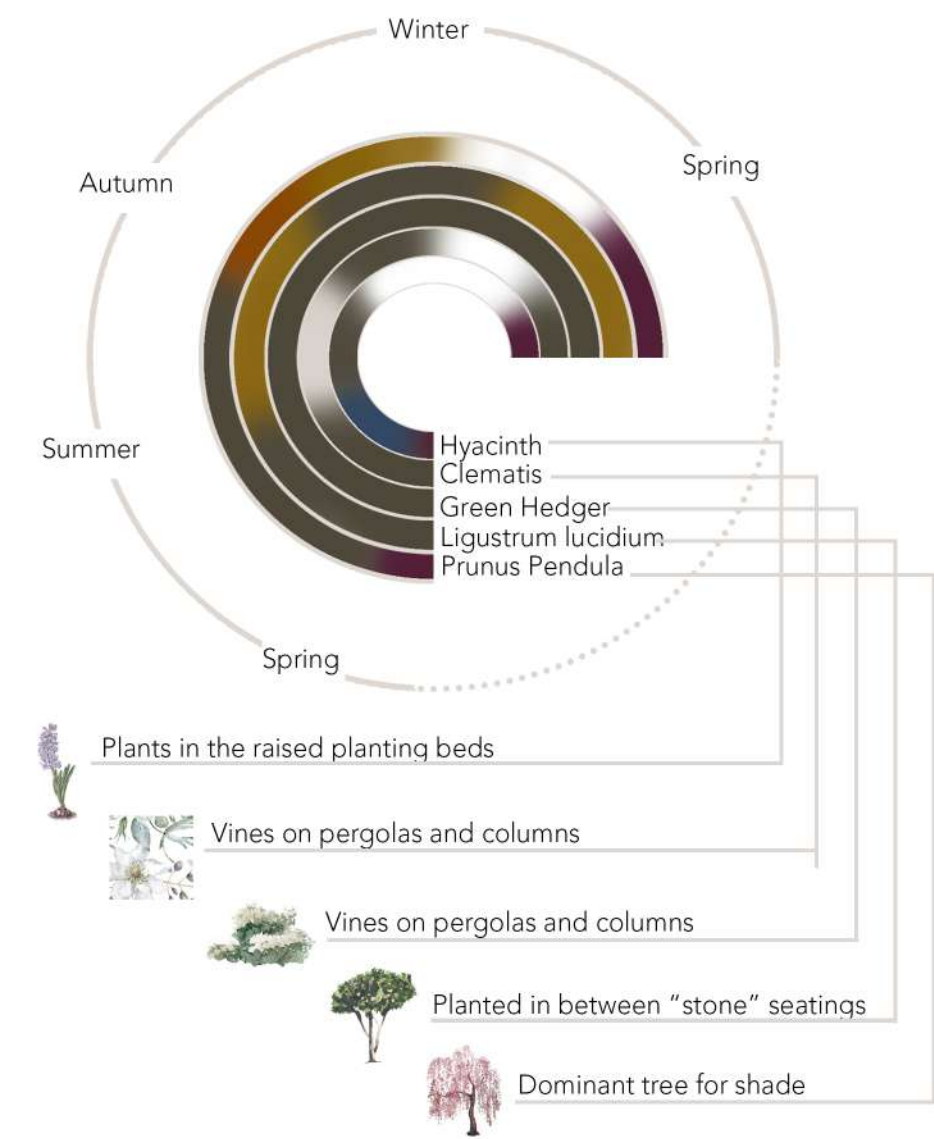


LANDSCAPE STRATEGY

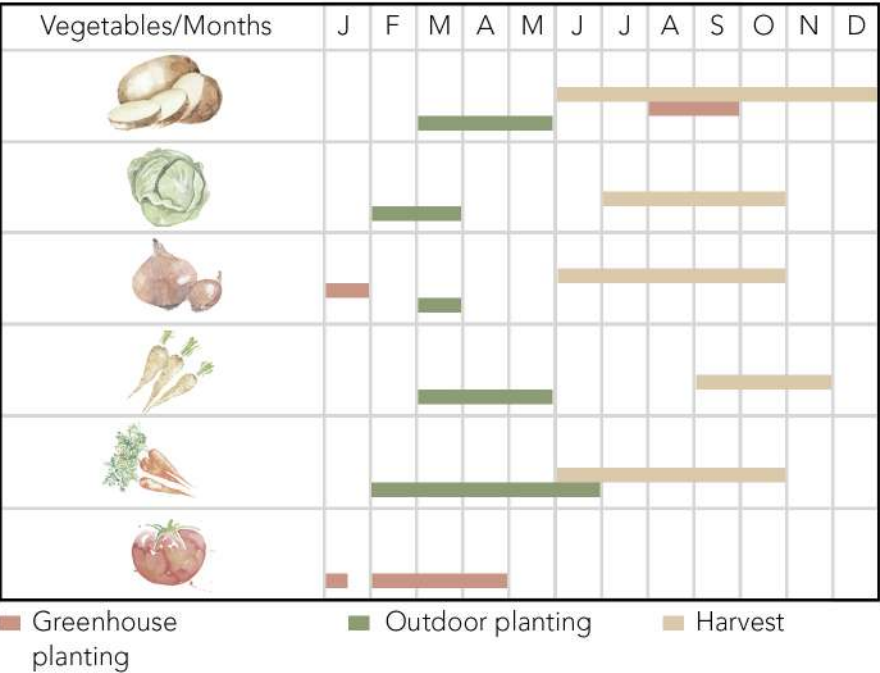
BIODIVERSITY:



GROWING:



The plants chosen are based on the idea of keeping things as minimal as possible whilst being aesthetically pleasing to look at. Simultaneously, due to the allotments being the source of food for the cafe, the lesser the vegetations, the more space each species would accommodate and increase its production continuously throughout the year.



STRUCTURAL APPROACH

1) Using local materials

Our strategy revolves around using local materials as this:
1) supports local communities 2) reduces transportation costs 3) minimises the impacts of the truck emissions into the air while delivering.



Material Choice



Welsh Slate
Roof cladding



British Green Oak Hardwood
Primary construction



British Brimstone Hardwood
Flooring/Decking



British Ash Softwood
Loose furniture



Reclaimed brick
Cafe external wall and chimney

2) Using easy joinery and self-build construction

Unified type of structure throughout the whole design; which is easy to construct and can potentially be built by local communities.

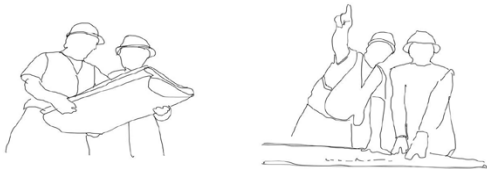


Concept of structure



3) Involving local community

Involving local communities into the process of building the community centre will bring pride and sense of belonging to the new centre from the local people. As a result, it could attract more people and less likely to be vandalized in future.



Building strategy

- The primary construction is to be built by professionals on site.
- Creating an educational short course for the volunteers to be involved in building secondary structure and veneer walls.
- Making sure all construction works are supervised and all Health and Safety regulations are applied.
- Documenting the construction process with the help of photographers and later on the pictures will be presented in the gallery of the new community centre making residents proud of their involvement.

Precedent of community involvement

ASSEMBLE

London Assemble has involved the residents of a run-down council housing estate to clean up the neighbourhood, paint empty houses and establish a local market.



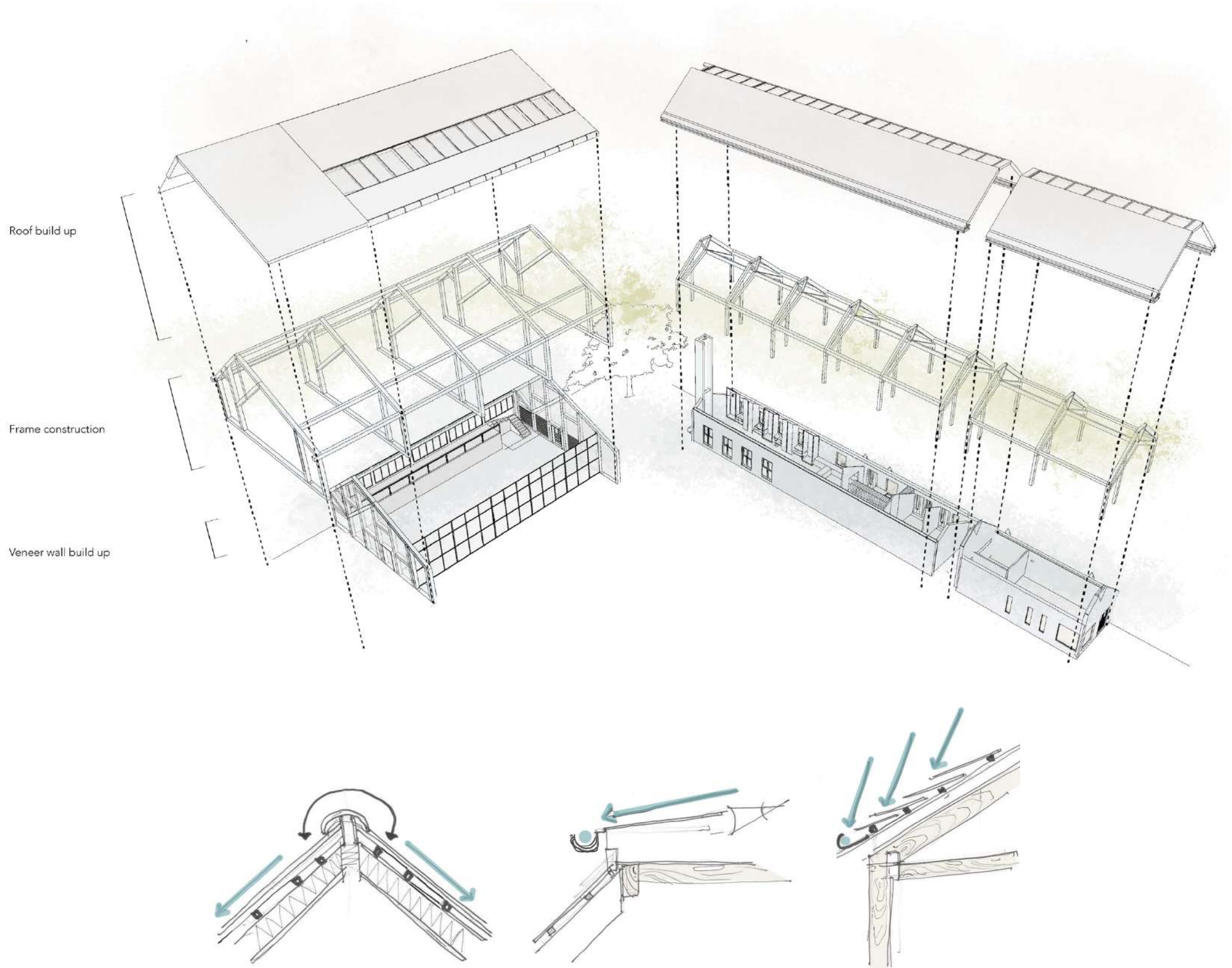
STRUCTURAL APPROACH

Roof build up:

- 1 Standard roof panel edge purlin with timber fixed to form inner part of interlocking roof joint.
- 2 Standard roof panel edge purlin with timber fixed to form outer part of interlocking roof joint.
- 3 Tiling battens to suit tiles or slates.

Wall and Foundation build up:

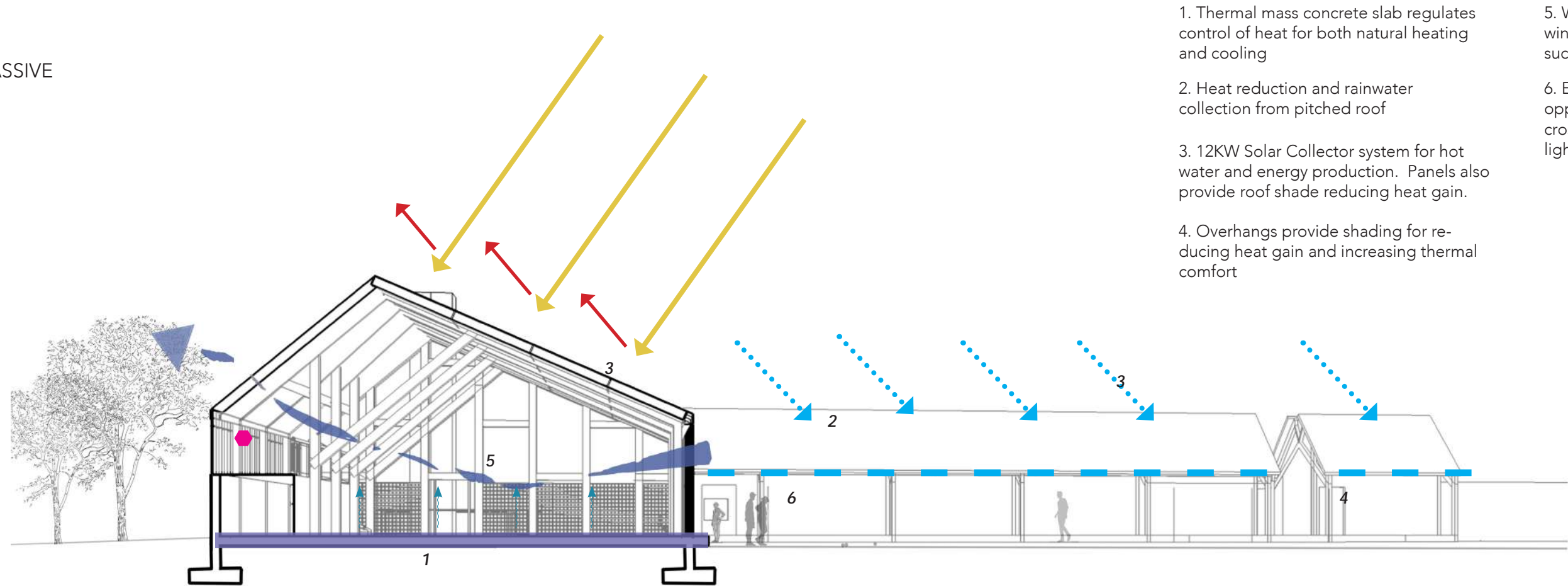
- 1 External wall panel: moisture resistant plasterboard on OSB on timber studs with mineral wool between and impregnated softboard sheathing.
- 2 Liquid DPC factory-applied to pre-cast concrete foundation.
- 3 Bottom rail of wall panel with timber fixed to form inside part of interlocking joint.
- 4 Sole plate with timber fixed to form outside part of interlocking joint.
- 5 Vertical or horizontal timber batten to form drained and vented cavity behind cladding.
- 6 Factory-applied cladding eg timber boarding, cement render on lath, brick slips
- 7 Factory-applied "skirting" panel to accommodate horizontal service runs.
- 8 Pre-cast "timber frame" concrete foundation beam to be set on pre-cast concrete piles.
- 9 Ground floor panel: OSB glued and screwed to joists with insulation between and breather membrane to the underside.
- 10 Stainless steel insect mesh to base of drained and vented cavity



Initial development of roof structure

ENVIRONMENTAL STRATEGY

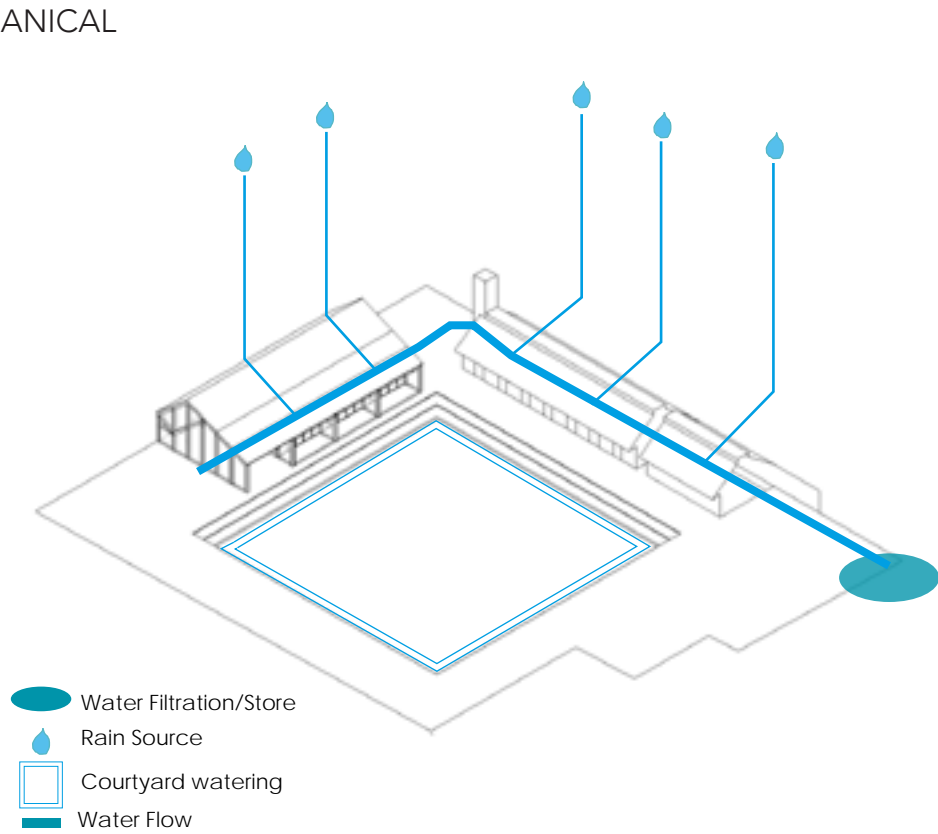
PASSIVE



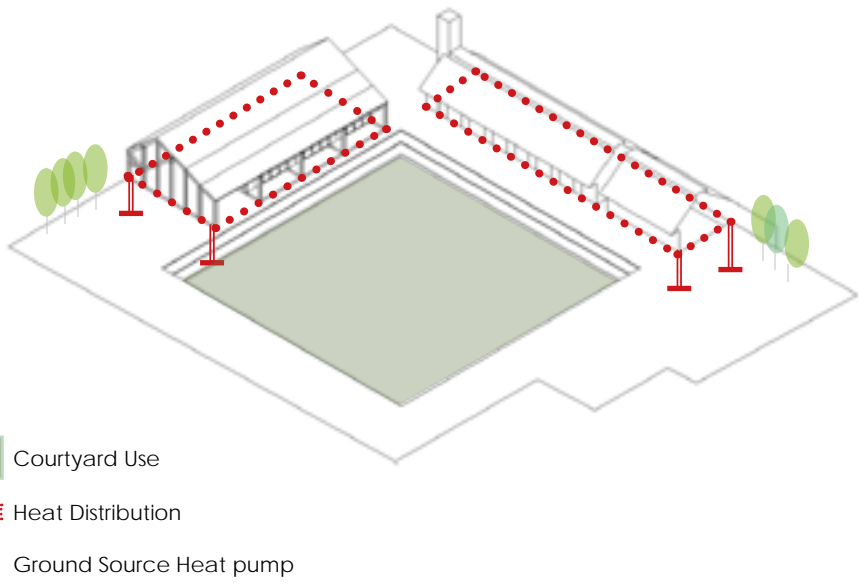
1. Thermal mass concrete slab regulates control of heat for both natural heating and cooling
2. Heat reduction and rainwater collection from pitched roof
3. 12KW Solar Collector system for hot water and energy production. Panels also provide roof shade reducing heat gain.
4. Overhangs provide shading for reducing heat gain and increasing thermal comfort

5. Warm air rises with appropriate located window placement for successful cross ventilation
6. External bowls green with large opposite high windows provides good cross ventilation and airflow + natural lighting.

MECHANICAL



1. Double pitched roof system allows rain water harvesting for front and back garden use.
2. Rain water will feed through the drainage piping system which runs along the base of the pitched roof.
3. Storage tanks are located on site for the storage and distribution of the water.
4. Simple filtration system will work for the building water use and the watering of the allotment/bowls green with high expected rainfall through Ely.



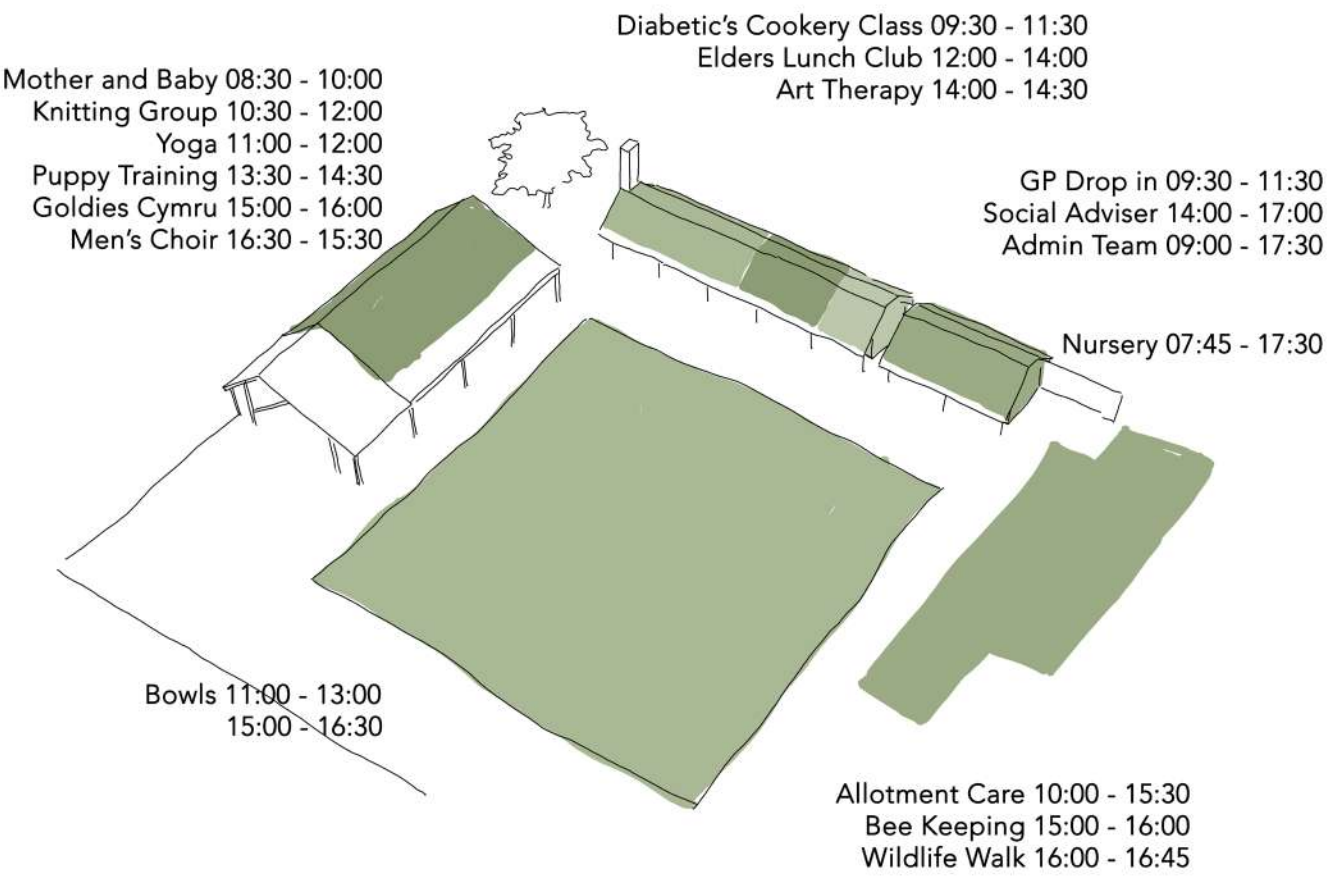
1. Ground source heat pumps will generate the heat through winter periods for the facility.
2. The system can be integrated into the pile foundations with specialist technology.
3. Costs saved with the multiple excavation will go towards the heat pump.
4. Ground source heat pump will support the thermal mass strategy to maintain thermal comfort within the facility. Potential for heat storage during summer months also.

- Water Filtration/Store
- Rain Source
- Courtyard watering
- Water Flow

- Courtyard Use
- Heat Distribution
- Ground Source Heat pump

PROGRAM OF USE: POST CONSTRUCTION

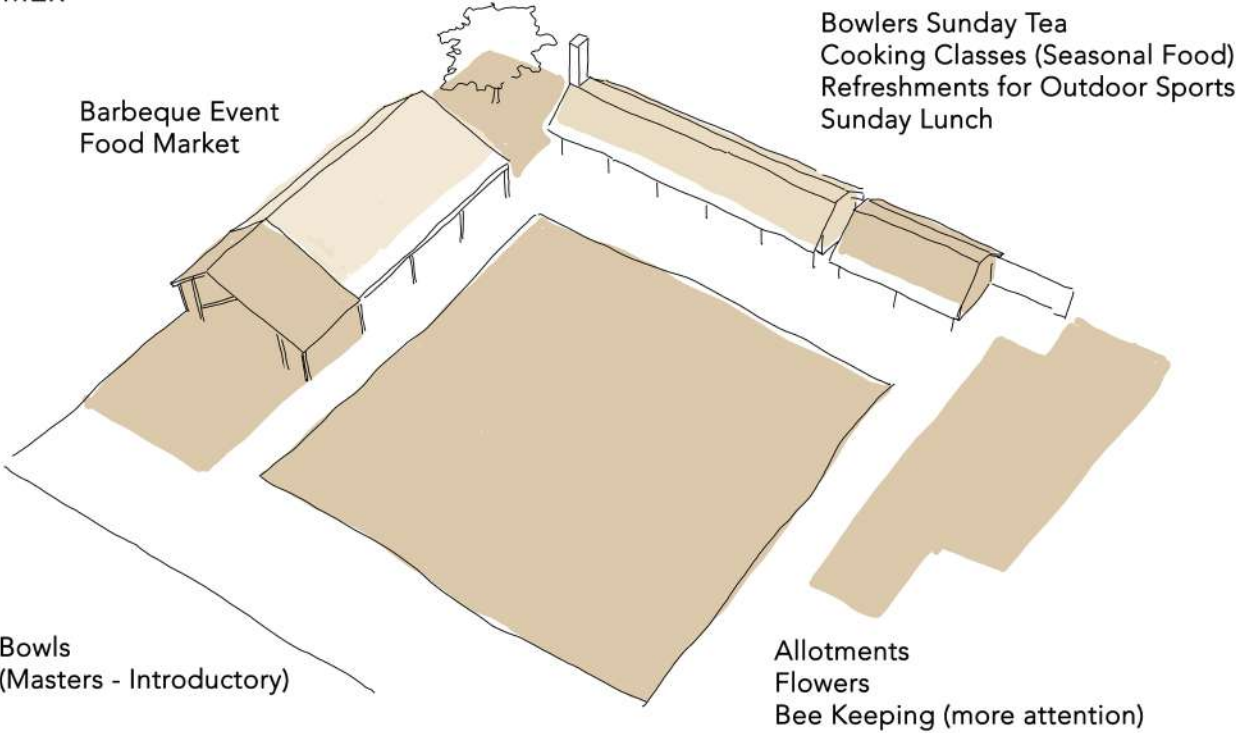
DAYTIME 07:30 - 17:30



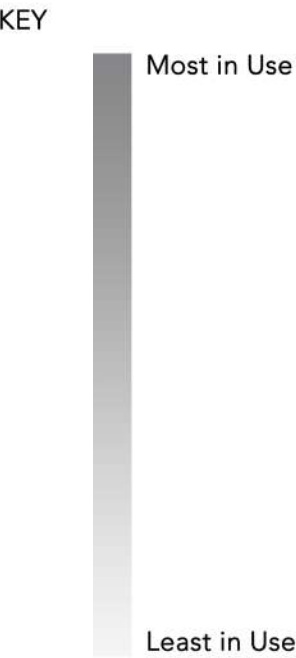
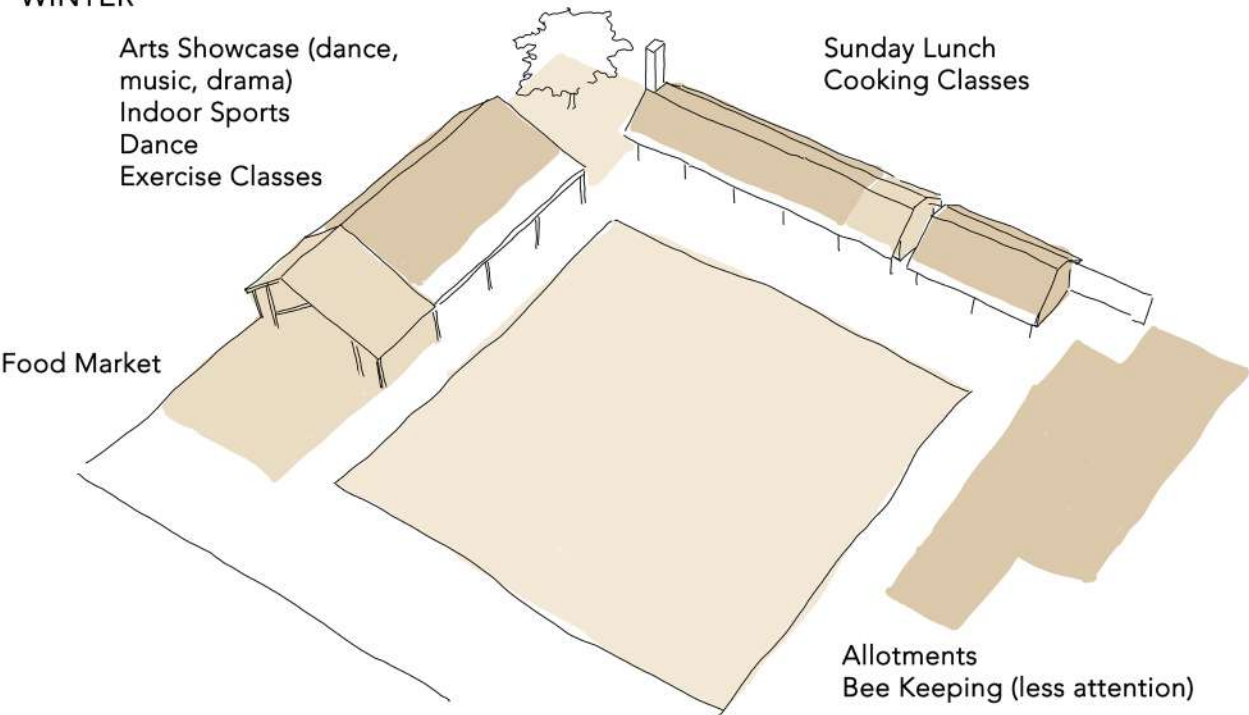
NIGHTTIME 17:30 - 21:00



SUMMER



WINTER



COST

Running Cost and potential Return

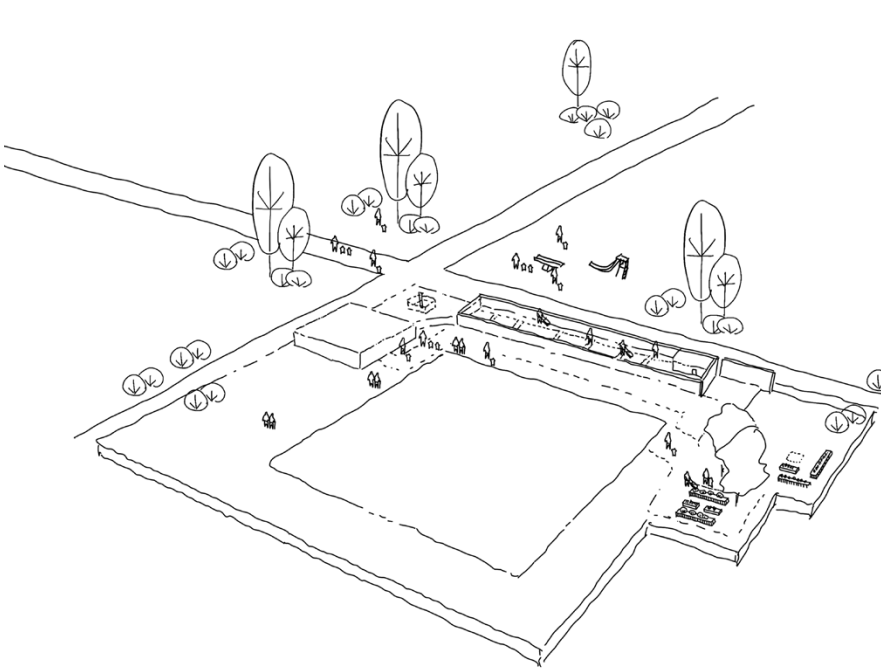
	Income	Outgoing	Margins/Annum
Nursery	£ 5,000.00		£ 5,000.00
Cafe	£ 90,000.00	£80,000.00	£ 10,000.00
Hall	£ 20,000.00		£ 20,000.00
Garden		£ 2,500.00	-£ 2,500.00
General Maintenance		£15,000.00	-£ 15,000.00
Total	£115,000.00	£97,500.00	£ 17,500.00

Nursery –
Although this nursery has a very small demographic, it is an integral part of the expansion and attraction for the community. Due to this importance, the nursery must be operational throughout the entire construction phase. Due to the nursery being privately owned, the revenue produced doesn't fall directly into the pocket of the trust, but it is paying £5,000 per year as rent for their use of the site. It makes sense to only assume that they will continue to pay this, however, it is highly likely that due to the nursery construction and expansion, that within a few years it could possibly increase £10,000 per year for rent.

Café –
This café will be open to the public between the hours of 8.30am and 16.00pm. This will allow many different demographics to come in to scope. It will encompass the parents dropping off or picking up their children from the nursery or even those bringing their children to the park after school finishes; adolescence may want to 'grab a bite' on their way home from school as well. This kitchen will sell refreshments, meals, and run cooking classes and bake sales.

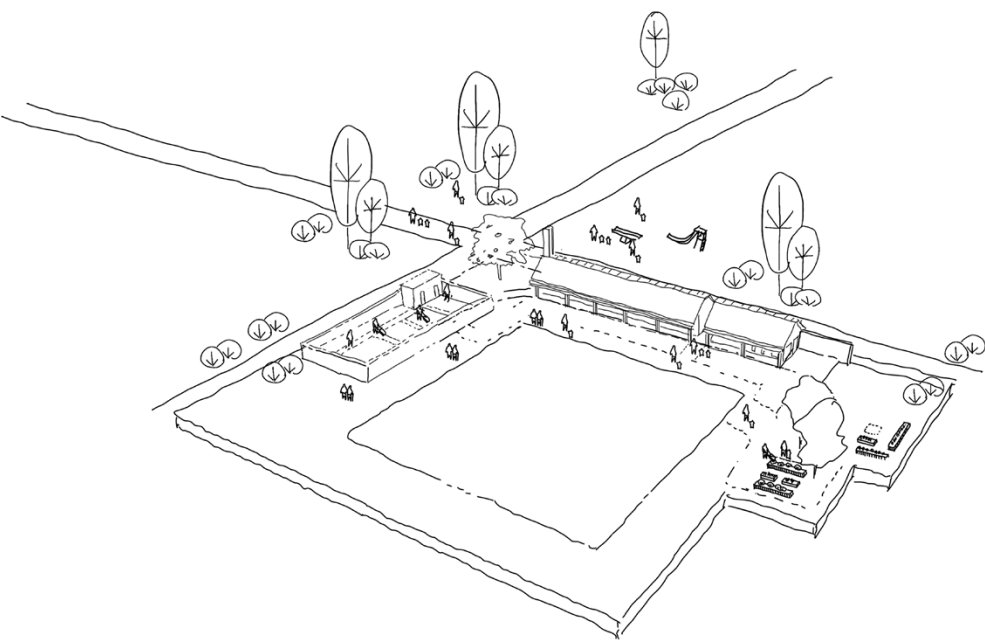
Function Space –
As a larger space, this could be rented out and used for large scale functions, birthdays, presentations or maybe weddings of those in the local area. This would be one of the larger sources of income for post-handover. This functional spaces are also planned to play host to fundraisers such as community BBQs and bake sales. Groups such as small classes or courses such as gardening, singing groups or exercise classes will be available for all. Talks from invited speakers, potentially helping those in need of rehabilitation, motivation or just one to one advice. Vocational job options may also look to appeal to the younger generation by talking at the centre.

Sports Teams –
With sports being a large driver for this area, being able to host supporters and away teams, and providing them with the opportunity to eat after games, giving the wider community outside of Ely a better impression of what Ely really is, giving them reasons to come back.



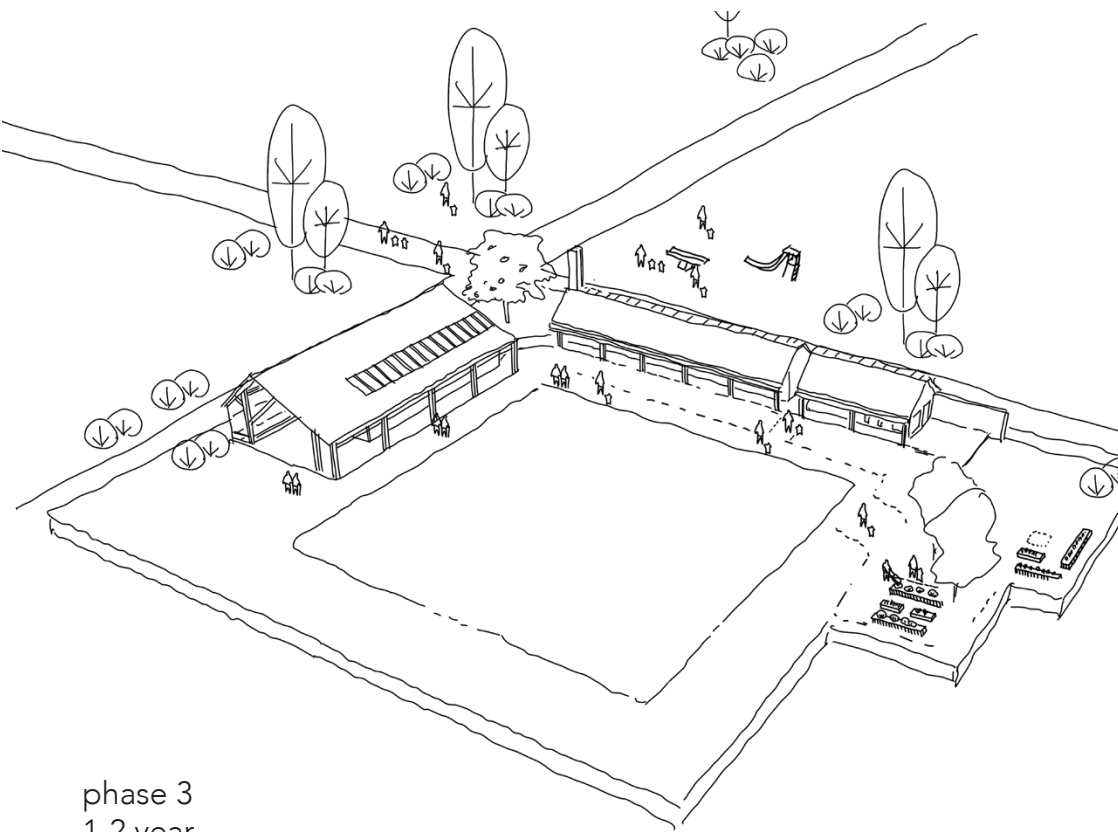
phase 1
0-6 month

Buidling the cafe and the greenhouse at the same time. The existing nursery is still operating



phase 2
6 months- 1 year

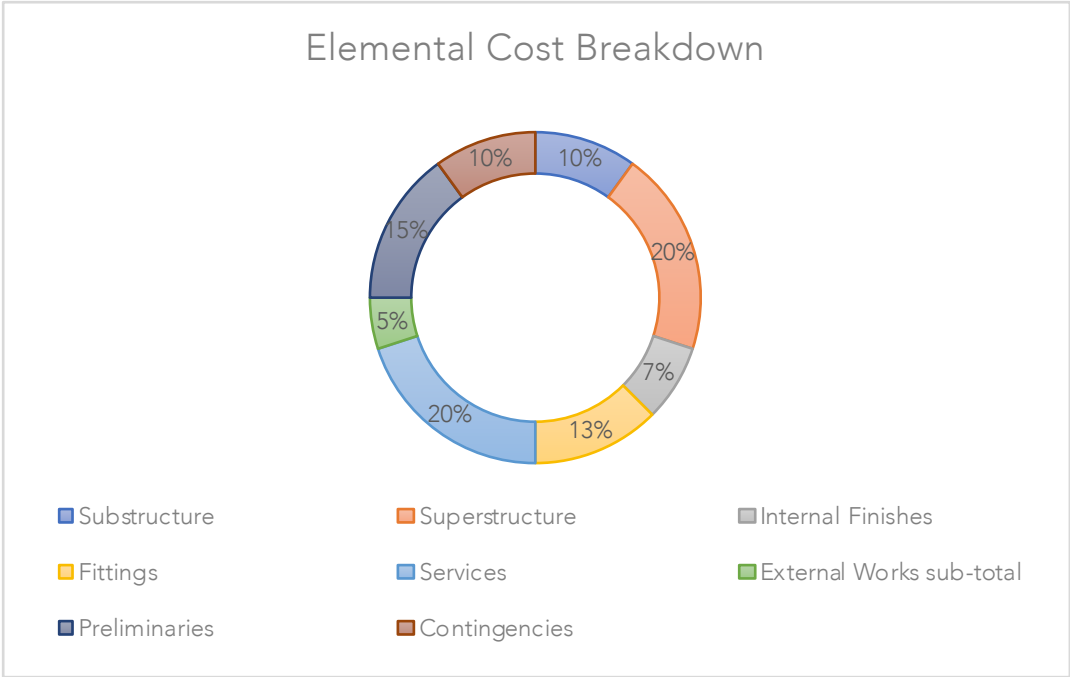
Construction of the new nursery. Generating a profit from the greenhouse and the cafe.



phase 3
1-2 year

The Sports centre is built from the ongoing profit from the cafe and newly built nursery. Full scheme complete allowing community use and further revenue.

Elemental Cost Breakdown



Cost Overview

Due of the nature of the scheme, we have estimated that the intial build costs for the scheme will be higher as it incorporates a more sustainable means of running it. Systems such as the biomass heating and rainwater collection and attenuation will cost more to install initially, but over time, the cost of running the scheme will become more efficient. Our estimated build cost is around £2.2 mil-lion, but we are expecting some compensation and interest from investors and creditors due to the nature of the project, as it will have a great impact on those living in the greater communities.

Additionally, because this is a rough outline cost plan for the development of the entire site and the lack of ecological surveys and site ground condition reports we are unable to make a safe assump-tion on what the costs of enabling and demolition works.

Our programme is driven by the idea of a community committing to our scheme and applying them-selves to better this community centre. Due to this, we are having to budget more for the project's 'contingencies'.

Building Care:
Oak frame:
Main aftercare will be required every 5-8 years to protect the weatherboard, at which time a main-tenance budget should be sufficient to cover costs. An expert should also inspect the wood in the case of possible rot or shrinkage.
Roof:
Gutters should be cleared twice a year. Every 5-7 years inspections should take place. Any damaged slates should be replaced whenever required. Slate roofs are estimated to last 125 years.
Glazing and fixtures:
Glazing may need to be replaced as required. Proposed flexible screening and doors may need replacing and repair throughout the building's lifespan.

A housekeeper role will be required. To include the management of day to day cleaning and mainte-nance and the organisation of when aspects of the building need to be replaced/repaired and when to appoint local tradesmen to inspect the continued quality of the building.

Elemental Summary		Phase 1		Phase 2		Phase 3	
		Cost	Cost/m2	Cost	Cost/m2	Cost	Cost/m2
0	Enabling & Demolition	Due to unknown ground conditions and incomplete site reports, these costs have been excluded for the time being					
1	Substructure	£62,309	£187	£74,771	£449	£112,156	£336
2	Superstructure	£124,618	£374	£149,542	£898	£224,313	£673
3	Internal Finishes	£46,732	£140	£56,078	£337	£84,117	£252
4	Fittings	£77,886	£234	£93,464	£561	£140,195	£420
5	Services	£124,618	£374	£149,542	£898	£224,313	£673
	Building sub-total	£436,164	£1,308	£523,396	£3,144	£785,095	£2,354
6	External Works sub-total	£124,618					
	Building & External Works sub-total	£1,869,273					
7A	Preliminaries	£373,854					
7B	Contingencies	£249,236					
	Total Construction Cost	£2,492,363					

